

WEEKLY SOUTHERN INDUSTRIAL
WEEKLY SOUTHERN INDUSTRIAL
RAILROAD THANCIAL NEWSPAPER.

COTTON'S PROCESSION SOUTHWARD.

The fact is that in the coarser grades of cotton fabrics the South is creeping up toward the New England manufacturers. The raw material is close at hand, labor is cheap, taxes are lower than at the North, and the market for the low-grade textiles which they produce is just as accessible from Georgia and the Carolinas as it is from New England. There is a gradual shifting of cotton manufacturing from the North to the South, and while the Southern mills are as yet making only the cheaper qualities of goods, it is believed by those best qualified to judge of the matter that the time may not be far distant when they will be active competitors in finer grades. The South is developing a foreign market for its cotton goods which New England has never been able to reach. A striking instance of this is presented in the undertaking recently assumed by a firm in Alabama. The owners of a large mill there have completed a factory to make certain grades of coarse textiles under a contract by which an importing house in Hong Kong binds itself to take the entire product of the mill for five years, for which there is a ready market in China. The goods for this trade have heretofore been made exclusively in England, but this contract with the Alabama firm seems likely to open an almost unlimited market for American fabrics in the Orient.—The Wool Record.

THE FILL TABLE OF CONTENTS WILL BE FOUND ON PAGE 75

Baltimore, February 18, 1898.

\$4.00 per year.
Single Gopy

The Westinghouse Air=Brake Company

is now prepared to fill orders at an hour's notice for one or one thousand sets of Air-Brakes for Freight Cars, having at their new works an annual capacity for turning out air-brakes for

250,000 Freight Cars 6,000 Passenger Cars 10,000 Locomotives

Besides repairs for the 613,000 Freight and Passenger Cars and 31,500 Locomotives already equipped by

The Westinghouse Air-Brake Company

THE MARION STEAM SHOVEL CO.

601 WEST CENTRE STREET, MARION, OHIO.

Barnhart's Steam Shovels, Dredges, Ditching Dredges, Raifroad Ditchers, Wreckers, Barnhart's Steam Shovels are largely used on Raifroa Ditchers, Wreckers, Barnhard Raifford on Raifroad Ditchers, Wreckers, Barnhard Raifford Raiff

Marion Steam Shovel Co.

601 West Centre Street,

ON, OHIO.

are hart's Ballast Unloader: no center rib or leader is require

A Dry Powder and a Little Water

Makes a Weatherproof Paint that is in many respects superior to oil colors.

Inside or outside it's all the same. Whiter than oil mixtures.

It's adapted for use anywhere where efficiency and durability is wanted.

It's fireproof.

ALDEN SPEARE'S SONS & CO.

Paint Department, 369 Atlantic Avenue, Boston, Mass. New York and Chicago

We are Selling Wheelbarrows,



And have been for a number of years. You won't fail to find some of our make if you will glance about. They are everywhere.

Let us quote you price. We make the best.

THE KILBOURNE & JACOBS MFG. CO., Columbus, Ohio, U. S. A.





CLASSIFIED INDEX **ADVERTISERS.** OF

FOR ALPHARETICAL INDEX See Page 76

Acid Chambers.

James Robertson Mfg. Co., Baltimore, Md. Caroline Iron Works, Baltimore, Md. Valk & Murdoch Iron Wks., Charleston, S. C. Agricultural Implements.

Hench & Dromgold, York, Pa.

Air Brakes.

Westinghouse Air Brake Co., Pittsburg, Pa.

Air Compressors.

Westinghouse Air Brake Co., Pittsburg, Pa.
Air Compressors.
Stilwell-Bierce & Smith-Vaile Co., Dayton, O.
Hall Steam Pump Co., Pittsburg, Pa.
H. B. Smith Machine Co., Smithville, N. J.
E. W. Bilas Co., 137 Plymouth street, Brooklyn, N. Y.
Ingersoll-Sergeant Dilli Co., New York, N. Y.
Rand Drill Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Anti-Friction Metals.
F. E. Reed Co., Worcester, Mass.
Epping-Carpenter Co., Pittsburg, Pa.
Theo. Hiertz & Son, St. Louis, Mo.
More, Jones & Co., St. Louis, Mo.
Balley-Lebby Co., Charleston, S. C.
Aprons. (Worsted-Rub.)

More, Jones & Co., St. Louis, Mo.
Balley-Lebby Co., Charleston, S. C.
Aprons. (Worsted-Rub.)
T. E. Pechin, Philadelphia, Pa.
Architects.
Towers & Wallace, Holyoke, Mass.
John McDonald & Sons, Austin, Texas.
Frank P. Milburn, Charlotte, N. C.
Hales & Ballinger, Philadelphia, Pa.
James Stewart & Co., St. Louis, Mo.
C. R. Makepeace & Co., Providence, R. I.
Architectural Iron Work.
C. Hanika & Sons, Muncie, Ind.
Norrish, Burnham & Co., Inc., Glen Rock, Pa.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
T. H. Brooks & Co., Cleveland, O.
Artesian Well Tools and Supplies.
[See Well Tools and Supplies.]
Asbestos.
Empire Paint & Roof. Co., Philadelphia, Pa.
Asphalt Pavements.

Asphalt Pavements.

Warren Chem. & Mfg. Co., New York, N. Y. National Roofing & Sup. Co., Louisville, Ky. Barber Asphalt Paving Co., New York, N. Y. Attorney and Counsellor-at-Law.

Attorney and Counsellor-at-Law.
J. A. Thayer & Co., Charleston, W. Va.
Robt. W. Grasty, Atlanta, Ga.
Babbitt Metal. [See Anti-Friction Metal.]
Bags, Rope and Twine.
John T. Bailey & Co., Philadelphia, Pa.
Bankers and Brokers.
F. M. Stafford & Co., Chattanooga, Tenn.
Sperry, Jones & Co., Baitimore, Md.
Maryland Trust Co., Baitimore, Md.
Exchange Big. & Trust Co., Charleston, S.C.
John L. Williams & Sons, Richmond, Va.
Middendorf, Oliver & Co., Baitimore, Md.

Barrel Mchy. [See Woodworking Mchy.]
E. & B. Holmes Mach'ry Co., Buffalo, N. Y.
Bars, Billets. (Soft Steel.)
Actna Stand. Iron & Steel Co., Bridgeport, O.

Holmes Fibre Graphite Mfg. Co., Phila., Pa. N. Amer. Metal. Co., Long Island City, N. Y.

Holmes Fibre Graphite Mrg. Co., Faille, L. N. Amer. Metal. Co., Long Island City, N. Y. Beiting.

The Bradford Belting Co., Cincinnati, O. Rossendale-Réddaway Beiting & Hose Co., Newark, N. J.

T. E. Pechin, Philadelphia, Pa. Eureka Fire Hose Co., New York, N. Y. J. E. Rhoads & Bons, Wilmington, Del. Chicago Belting Co., Chicago, Ili. Alexander Bros., Philadelphia, Pa. Chesapeake Beiting Co., Baltimore, Md. Jewell Belting Co., Hartford, Conn. I. B. Williams & Bons, Dover, N. H. Lombard Iron Wks. & Sup. Co., Augusta, Ga. N. J. Car Spring & Rub. Co., Jersey City, N. J. Chas. A. Schleren & Co., New York, N. Y. Boston Belting Co., Boston, Mass. E. M. Freese & Co., Gallon, O. Cameron & Barkley Co., Charleston, S. C. Main Belting Co., Philadelphia, Pa. Gandy Relting Co., Baltimore, Md. Schults Belting Co., St. Louis, Mo. H. W. Caldwell & Son Co., Chicago, Ili. American Supply Co., Providence, B. I. Belting. (Chain.)

H. W. Caldwell & Son Co., Chicago, Ili. Jeffrey Mfg. Co., Columbus, O. Link-Belt Engl's Co., Nicetown (Phila.), Pa. Belt Lacing and Fasteners.

Belt Lacing and Fasteners. J. M. Hayden & Co., Grand Rapids, Mich. American Supply Co., Providence, R. I. Shultz Belting Co., St. Louis, Mo. Samson Steel Belt Hook Co., Phila., Pa.

Belt Preserver. E. Rhoads & Sons, Wilmington, Del. hultz Belting Co., St. Louis, Mo.

Bicycles.
Y. A. Mead Cycle Co., Chicago, Ill.
Maryland Mfg. & Const. Co., Baltimore, Md.
Bicycle Machinery and Tools. [See
Tools.]

Blower. (Argand Steam.) Blower. (Argand Steam.)

McClave, Brooks & Co., Scranton, Pa.

Blowers and Exhaust Fans.

B. F. Sturtevant Co., Boston, Mass.

Buffalo Forge Co., Buffalo, N. Y.

Boiler Appliances.

Crosby St. Gage & Valve Co., Boston, Mass.

Reliance Gauge Co., Cleveland, O.,

Boiler Fronts and Fittings. [See Bollers.]

Boilers.]

Boilers. [See Machinery.]

Ames Iron Works, Oswego, N. Y.

Harrisburg Mfg. & Boiler Co., Harrisburg, Pa.

S. L. Holt & Co., Boaton, Mass.

The Means & Fulton Iron Works, Birmingham, Als.

Riter-Conley Co., Pittaburg, Pa.

Wallace Stebbins, Baitlmore, Md.

The Globe Machine Works, Cinnati, O.

Maryland Mfg. & Const. Co., Baitlmore, Md.

York Mfg. Co., York, Pa.

Fulton Steam Boller Works & Foundry, Richmond, Ind. Valdosta Fdy. & Mch. Co., Valdosta, Ga. Meridian Machine Shops, Meridian, Miss. Broomell, Schmidt & Co., Ltd., York, Pa. A. B. Farquhar Co., Ltd., York, Pa. A. B. Farquhar Co., Ltd., York, Pa. Alabama Bridge & Boll. Co., Birmingham, Ala. Hartley's Boller Works, Montgomery, Ala. Birmingham Boller Wes, Birmingham, Als. Struthers, Wells & Co., Warren, Pa. E. Keeler Co., Williamsport, Pa. Lombard Iron Wks. & Sup. Co., Augusta, Ga. James Leffel & Co., Springfeld, O. Pittsburg Locomotive Works, Pittsburg, Pa. Smith-Courtiney Co., Schenfeld, O. Pittsburg Locomotive Works, Pittsburg, Pa. Smith-Courtiney Co., Richmond, Va. The Balley-Lebby Co., Charleston, S. C. Union Iron Works Co., Selma, Ala. Charlotte Machine Co., Charlotte, N. C. S. C. Forsaith Mch. Co., Manchester, N. H. Cameron & Barkley Co., Charleston, S. C. Babcock & Wilcox, Co., New York, N. Y. Tudor Boller Mfg. Co., Cincinnati, O. Valk & Murdoch Iron Wks., Charleston, S. C. Frick Co., Waynesboro, Pa. M. Zler & Co., New Albany, Ind. Polladelphia Mch. Screw Wks., Phila., Pa.

Parkhurst Bros. & Co., Indianapolis, Ind.
Philadelphia Mch. Screw Wks., Phila., Pa.
Hoopes & Townsend, Philadelphia, Pa. Brass Goods.

The Lunkenhelmer Co., Cincinnati, O. Chas. H. Besly & Co., Chicago, Ill. Bailey-Lebby Co., Charleston, S. C. Ahrens & Ott Mfg. Co., Louisville, Ky. Buckeye Iron & Brass Works, Dayton, O.

The Powhatan Clay Mfg. Co., Richmond, Va.

The Powhatan Clay Mfg. Co., Richmond, Va.
Brick and Clayworking Machinery
and Supplies.
The Henry Martin Brick Mch. Mfg. Co.,
Lancaster, Pa.
George Carnell, Philadelphia, Pa.
E. M. Freese & Co., Gallon, O.
Bridges.
The New Columbus Bridge Co., Columbus, O.
Alabama Bridge & Boll. Co., Birmingham, Ala.

Buckets. (Self-dumping Coal and Ore.)
R. D. Seidel, Reading, Pa.
G. L. Stuebner Iron Wks., L. Island City, N. Y.

Burlaps.

John T. Bailey & Co., Philadelphia, Pa.

Canmakers' Machinery.

Niagara Stamping & Tool Co., Buffalo, N. Y.
A. K. Robins & Co., Baitimore, Md.

Toledo Machine & Tool Co., Toledo, O.

Maryland Mgs. & Const. Co., Baitimore, Md.

E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.

Canning Machinery.

Canning Machinery.

Niagara Stamping & Tool Co., Buffalo, N. Y.
E. W. Bilas Co., 137 Plymouth street, Brooklyn, N. Y.
Capstams. (Hand and Steam.)

American Ship Windlass Co., Providence, R. I.
Card Clothing.

American Supply Co., Providence, R. I.
Cars. (Mine and Dump.)

Jackson Manufacturing Co., Harrisburg, Pa.
G. L. Stuebner Iron Wks., L. Island City, N. Y.
Cilmax Mfg. Co., Corry, Pa.
Birmingham Boller Wks., Birmingham, Ala.
Geo. Peacock, Selms, Ala.

Cars. (Passenger and Freight.) [See
Raliroad Equipment and Supplies.]

Car-Couplers. hester Steel Castings Co., Philadelphia, Pa.

Car Seals. (Lead.) Theo. Heirtz & Son, St. Louis, Mo.

Theo. Heirtz & Son, St. Louis, sav. Car Springs.
N. J. Car Springs Rub. Co., Jersey City, N. J. Boston Belting Co., Boston, Mass.
Car Wheels and Axies.
Lobdell Car Wheel Co., Wilmington, Del. Geo. Peacock, Selma, Ala.
Castings. (Brass and Bronze.)
Epping-Carpenter Co., Pittsburg, Pa. The Lunkenheimer Co., Cincinnati, O. Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
Castings. (Copper.)

Newburgh Ice Machine & Eingine Co., Newburgh, N. Y.
Castings. (Copper.)
Mitchell Tempered Copper Co., Corry, Pa.
Castings. (Cotton Mill.)
High Point Mch. Works, High Point, N. C.
Castings. (Crucible Chrome Steel.)
Chrome Steel Works, Brooklyn, N. Y.
Castings. (Iron.)
The Vulcan Works, Chester, Pa.
The New Columbus Bridge Co., Columbus, O.
R. D. Wood & Co., Philadelphia, Pa.
Newburgh Ice Machine & Eingine Co., Newburgh, N. Y.
Chattanoga Fdy. & P. Wks., Chatt., Tenn.
McLanahan & Stone, Hollidaysburg, Pa.
Castings. (Malleable Iron and Steel.)

McLanahan & Stone, Hollidaysburg, Pa.
Castings. (Malleable Iron and Steel.)
Chester Steel Castings Co., Chester, Pa.
Ceilings.
Cincinnati Corrugating Co., Piqua, O.
Cement.
Austin White Lime Co., Austin, Texas.
Southeastern Lime & C. Co., Charleston, S. C.
Wm. M. Bird & Co., Charleston, S. C.
Commercial Wood & Coment Co., Phila., Pa.
C. M. Gilbert & Co., Savannah, Ga. Chains. The Jeffrey Mfg. Co., Columbus, O.

Chemists.
Otto Meyer, Richmond, Va.
Lucius P. Brown, Nashville, Tenn.
R. Dunber & Son, Buffalo, N. Y.
N. P. Pratt Laboratory, Atlanta, Ga.
Dr. Henry Froehling, Richmond, Va.
John Sanderson, Middlesborough, Ky.

Chucks.

Morse Twist Drill & Mch. Co., New Bedfo Skinner Chuck Co., New Britain, Conn. Chas. H. Beely & Co., Chicago, Ill.

Clamps.

Chas. H. Besly & Co., Chicago, III.

Clocks. (Watchman's and Town.)

Clocks. (Watchman's and Town.)
Fairmount Mch. Co., Philadelphia, Pa.
Eco Magneto Clock Co., Boston, Mass.
Chas. H. Besly & Co., Chicago, Ill.
Clutches. (Friction.)
A. & F. Brown, New York, N. Y.
E. W. Bliss Co., 137 Plymouth street, Brook
lyn, N. Y.
Conl.
The Standard Coal Co., Brookwood, Ala.
Castner, Curran & Bullitt, Philadelphia, Pn.
Cocks. (Ball and Plugged.)
Lehigh Valley Brass Wks., S. Bethleh'm, Pa.
Cocks.

Lehigh Valley Brass Wks., S. Bethieh'm, P. Cohe.
The Standard Coal Co., Brookwood, Ala.
Commutator Bars and Segments.
Mitchell Tempered Copper Co., Corry, Pa.
Contractors. (Railway.)
Smethurst & Allen, Philadelphia, Pa.
Contractors and Builders.
Contractors and Builders.

Contractors. (Rallway.)
Smethurst & Allen, Philadelphia, Pa.
Contractors and Builders.
C. H. Norton, Durham, N. C.
Guilfoux & Bianc, New Iberla, La.
John McDonaid & Sons, Austin, Texas.
Wm. A. Chapman & Co., Providence, R. I.
James Stewart & Co., St. Louis, Mo.
Contractors and Builders' Supplies.
Guilfoux & Blanc, New Iberla, La.
Riter-Conley Co., Pittsburg, Pa.
Wrightsville Hardware Co., Wrightsy'e, Pa.
Sam'l H. French & Co., Philadelphia, Pa.
Contractors. (Prospecting.)
H. P. Simpson, Seranton, Pa.
Contractors' Machinery and Supplies. (See Holsting Machinery.)
Lambert Holsting Eng. Co., Newark, N. J.
Contractors' Plant Mfg. Co., Buffalo, N. Y.
Geo. Peacock, Selma, Ala.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Marion Steam Shovel Co., Marion, O.
Conveying Machinery.
Brown Holst. & Con, Mch. Co., Cleveland, O.
W. J. Clark Co., Salem, O.
Walker & Elliott, Wilmington, Del.
H. W. Caldwell & Son Co., Chleago, Ill.
McLanahan & Stone, Hollidaysburg, Pa.
The Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engl'g Co., Nicetown (Phils.), Pa.
Coppersmiths.
Birmingham Boller Works, Birmingham, Ala.
Copying Machine.
The Piqua Copying Machine Co., Piqua, O.
Corm Mill Machinery.
J. R. Alsing Co., New York, N. Y.
Sprout, Waldron & Co., Baitmore, Md.
Sturievant Mill Co., Boston, Mass.
Corrugated Iron. [See Roofing and
Siding.]
Cotton Hose.
Eureka Fire Hose Co., New York, N. Y.
N. J. Car Spring & Rub. Co., Jersey City, N. J.
Boston Belting O., Boston, Mass.
Cotton Compresses.
The Vulcan Works, Chester, Pa.

N. J. Car Spring & Rub. Co., Jersey City, N. J. Boston Belting O., Boston, Mass.
Cotton Compresses,
The Vulcan Works, Chester, Pa.
Cotton Gin Machinery.
Carver Cot. Gin Co., E. Bridgewater, Mass. Valk & Murdoch Iron Wks., Charleston, S.C.
Cotton Mill Mchy. [See Textile Mchy.]
Fairmount Machine Co., Philadelphia, Pa. J. A. Gowdey & Son, Providence, R. I.
Crompton & Knowles Loom Works, Worcester, Mass.
Cohoes Iron Fdy. & Mch. Co., Cohoes, N. Y.
Curtis & Marble Mch. Co., Worcester, Mass.
Mason Machine Works, Taunton, Mass.
Charlotte Machine Co., Charlotte, N. C.
Kilburn, Lincoln & Co., Fall River, Mass.
Lowell Machine Shop, Boston, Mass.
American Supply Co., Providence, R. I.
Draper Co., Hopedale, Mass.
Whitinsville Spin. Ring. Co., Whitins'e, Mass.
Pettee Mch. Wks., Newton Upper Fails, Mass.
Providence Machine Co., Providence, R. I.
Easton & Burnham Mch. Co., Pawtucket, R. I.
Cottonseed-Oil Machinery.

Providence Machine Co., Providence, R. I. Easton & Burnham Mch. Co., Prawtucket, R.I. Cottonseed-Oil Machinery.

J. R. Alsing Co., New York, N. Y.
G. H. Bushnell Press Co., Thompsonv'e, Conn. Sturtevant Mill Co., Boston, Mass.
Stilwell-Blerce & Suith-Valle Co., Dayton, O. Buckeye Iron and Brass Works, Dayton, O. Carver Cot. Gin Co., E. Bridgewater, Mass. Cardwell Machine Co., Richmond, Va. Cottonseed Products.

American Cotton Oil Co., New York, N. Y. Covering. (Asbestos Magnesia for Pipe and Bollers.)

Valk & Murdoch Iron Wks., Charleston, S.C. New York Fireproof Covering Co., New York. Coverers. (Rollers and Clearers.)

American Supply Co., Providence, R. I. Cranes. (Traveling.)

The Case Manufacturing Co., Columbus, O. Brown Holst. & Con. Mch. Co., Cleveland, O. Crankshafts.

Crankshafts.
Chester Steel Castings Co., Philadelphia, Pa.
Creosoted Lumber,
West Pascagoula Creosote Works, West
Pascagoula, Fh.
Fernandina Oli & Creos't Wks., Fernan. Fla.

Fascagouia, Fm.
Fernandina Oli & Creos't Wks., Fernan, Fla.
Crushbles.
R. B. Seidel, Philadelphia, Pa.
Crushers. (Corn and Cob.)
Munson Bros., Utlea. N. Y.
The Foos Mfg. Co., Springdeld, O.
Crushing and Pulverising Mehy.
M. F. Abbe, New York, N. Y.
J. S. & G. F. Simpson, Brooklyn, N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Boston, Mass.
R. McCully, Philadelphia, Pa.
Foos Mfg. Co., Springdeld, O.
Bradley Pulveriser Co., Beston, Mass.
J. R. Aising Co., Incorp., New York, N. Y.
Walker & Elilott, Wilmington, Del.
James Murray & Son, Baltimore, Md.
Dado Heads.
Huther Bros., Rochester, N. Y.

Detective Agency.

M. Bradford, Norfolk, Va.

Die Forgings and Castings.

Chrome Steel Works, Brooklyn, N. Y. E. W. Bilss Co., 137 Plymouth street, Brooklyn, N. Y.

Chrome Steel Works, Brooklyn, N. Y.
E. W. Bilss Co., 137 Plymouth street, Brooklyn, N. Y.
Dies for Sheet-Metal Workers.

Niagara Stamping & Tool Co., Buffalo, N. Y.
Toledo Machine & Tool Co., Toledo, O.
The E. S. Stiles Press Co., Watert'n, N. Y.
E. W. Bilss Co., 137 Plymouth street, Brooklyn, N. Y.
Chas, H. Besly & Co., Chicago, Ill.

Door Hangers. (Trolley Track.)
Cronk Hanger Co., Elmira, N. Y.
Coburn Trol. Track Mfg, Co., Holyoke, Mass
Dredges and Excavators.

Marion Steam Shovel Co., Marion, O.
Drills. (Prospecting.)
H. P. Simpson, Scranton, Pa.
Muirhead Machine Works, Pitiston, Pa.
American Diamond Rock Drill Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Brills. (Rock.)

American Diamond Rock Drill Co., New York.
Sullivan Machinery Co., Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoil-Sergeant Drill Co., New York, N. Y.
Standard Tool Co., Cleveland, O.
Morse Twist Drill & Mch. Co., New Bedford,
Mass.

Drilling Machines.

Mass. Drilling Machines. Mass.

Drilling Machines.

The Davis & Egan Mch. Tool Co., Cincinnati, O. H. P. Simpson, Scranton, Pa. Mulrhead Machine Works, Pittston, Pa. The Globe Machine Works, Cincinnati, O. W. F. & Jno. Barnes Co., Rockford, Ill. Draper Mch. Tool Co., Worcester, Mass. Stow Flexible Shaft Co., Ltd., Phila., Ps. Dry-Kilns.

New Rapid Dry-Kiln Co., Baltimore, Md. The A. H. Andrews Co., Chicago, Ill. Sturtevant Mill Co., Boston, Mass.

Drying Machinery.

J. R. Alsing Co., New York, N. Y. B. F. Sturtevant Co., Boston, Mass.
R. Dunbar & Son, Buffalo, N. Y. The Jeffrey Mfg. Co., Columbus, O. M. F. Abbe, New York, N. Y. The Balley-Lebby Co., Charleston, S. C. Dust-Collecting System.

B. F. Sturtevant Co., Boston, Mass.

Ejectors.

Ejectors.

Henry B. Pancoast & Co., Philadelphia, Pa.

Electric Water Power.

Electric Water Power.
Columbia Water Power Co., Columbia, S. C.
Electrica-Light and Power Plants.
Triumph Electric Co., Cincinnati, O.
Northern Electric Mfg. Co., Madison, Wis.
The Electrical Migneering & Supply Co.,
Charlotte, N. C.
Maryland Mfg. & Const. Co., Baltimore, Md.
The United Electrical Imp. Co., Phila., Pa.
Stanley Electric Mfg. Co., Pittsfeld, Mass.
Card Electric Co., Mansfield, O.
Chas. E. Gregory Co., Chicago, Ill.
American Engine Co., Bound Brook, N. J.
Smethurst & Allan, Philadelphia, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Fort Wayne Elec. Corp'n, Fort Wayne, Ind.
Commercial Electric Co., Indianapolis, Ind.
Westinghouse Elec. & Mfg. Co., Pittsb'g, Pa.
Electrical Engineering & Supply Co.,
Charlotte, N. C.
Stanley Electric Mfg. Co., Pittsb'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Electrical Supplies.
Triumph Electric Co., Cincinnati, O.
Northern Electric Mfg. Co., Pittsb'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Electrical Supplies.
Triumph Electric Mfg. Co., Cincinnati, O.
Northern Electric Mfg. Co., Cincinnati, O.
B. F. Sturtevant Co., Boston, Mass.
The Electrical Engineering & Supply Co.,
Charlotte, N. C.
Maryland Mfg. & Const. Co., Baltimore, Md.
The United Electrical Imp. Co., Phila., Pa.
The Cornman Co., Cleveland, O.
Stanley Electric Mfg. Co., Fittsbield, Mass.
Card Electric Co., Mansfield, O.
Stanley Electric Mfg. Co., Pittsbield, Mass.
Card Electric Co., Mansfield, O.
Stanley Electric Mfg. Co., Philadelphia, Pa.
Chelnotte, N. C.
Parkuntst Bros. & Co., Chicago, Ill.
Westinghouse Elec. & Mfg. Co., Pittsb'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Elevators.
Parkuntst Bros. & Co., Chicago, Ill.
Westinghouse Elec. & Mfg. Co., Pittsb'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Elevators.
Parkuntst Bros. & Co., Chicago, Ill.
Westinghouse Elec. & Mfg. Co., Pittsb'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Elevators.
Parkuntst Bros. & Co., Chicago, Ill.
Westinghouse Elec. & Mfg. Co., Pittsby'g, Pa.
Shawhan-Thresher Electric Co., Dayton, O.
Elevator. (Portab

Any Lazy **Traps**

about your place? The kind that won't work unless you stand over them with a club? Did you ever examine your steam traps to see if they do their work? Better do so at once. Don't you want to try a "Heintz," right beside your other traps and make a test? The "Heintz" will be found sensitive, quick, economical, practical; in fact, the leader in every trap-point. Fact of the matter-" Heintz" is the only one ever imitated. Why? Ask for Booklet " J "



William S. Haines Company,

136 South Fourth Street, Philadelphia.

" The Heintz-the best-tho it has imitators."

WEINLAND'S TUBE CLEANER



THE LAGONDA MANUFACTURING CO. SPRINGFIELD, ONIO





METALS PERFORATED AS REQUIRED FOR

CREENS OF ALL KINDS

Milling and Mining Machinery
Reduction and Concentrating Works
Woolen, Cotton, Paper and Pulp Mills
Rice, Flour and Cottonseed Oil Mills
Sugar and Malt Houses Distilleries, Filter Presses

Stone, Coal and Ore Screens Stamp Battery Screens Brick and Tile Works, Filters Spark Arresters, Gas and Water Works Oil, Gas and Vapor Stoves Coffee Machinery, etc., etc.

Standard Sizes Perforated Tin and Brass Always in Stock

Main Office and Works: 234 to 236 North Union Street, Chicago, Ill., U.S.A. Eastern Office: No. 284 Pearl Street, New York

ESTABLISHED IN 1866

STOPPERS AND NOZZLES.



R. B. SEIDEL,

Philadelphia Black Lead

Crucible Works,



1324 to 1334 Callowhill Street, PHILADELPHIA, PA.

KEEP IN

over

Steam Pipes and Boilers

SAMPLES and estimates can be had for the asking.

Gast's Rock Wool or Magnesia Sectional Covering.

NEW YORK FIRE-PROOF COVERING CO.

207 Havemyer Bldg., NEW YORK.

Gonveying, Elevating and Power-Transmitting Machinery H. W. CALDWELL & SON CO.

SPECIALTIES FOR COTTONSEED-OIL MILLS, FLOUR AND RICE MILLS, AND GRAIN ELEVATORS.

GENERAL MACHINISTS,

127, 129, 131, 133 West Washington St.

CHICAGO.

CALDWELL

STEEL CONVEYOR.

iulactured exclusively by us at Chicago, with latest improvements.



OALDWELL CORRUGATED SEAMLESS

LINK BELTING. SPROCKET WHEELS. COTTON BELTING. RUBBER BELTING. LEATHER BELTING. BELT CLAMPS. POWER GRAIN SHOVELS. ELEVATOR BOLTS, ELEVATOR BUCKETS: CONCRETE MIXERS.

FRICTION CLUTCHES JAW CLUTCHES. COUPLINGS. PLEXIBLE SPOUTS. ELEVATOR BOOTS. PERFORATED METALS PILLOW BLOCKS. IRON PULLEYS. WOOD PULLEYS. SHAFTING SET COLLARS. SWIVEL SPOUTS. TAKE-UP BOXES. TURN HEAD SPOUTS. WIRE CLOTH.



ADVERTISERS. CLASSIFIED INDEX OF

For ALPHABETICAL INDEX See Page 76.

Standard Saw Mill Machy. Co., Erie, Pa.

S. L. Holt & Co., Boston, Mass.
Wallace Stebbins, Balthnore, Mas.
Wallace Stebbins, Balthnore, Mass.
The Globe Machine Works, Cincinnati, O.
Maryland Mfg. & Const. Co., Bultimore, Md.
York Mfg. Co., York, Pa.
Buckeye Engine Co., Salen, O.
Davis-Farrar Co., Erie, Pa.
A. B. Farqubar Co., Ltd., York, Ps.
Robt. Wetherill & Co., Chester, Pa.
American-Ball Eng. Co., Bound Brook, N. J.
Buffalo Forge Co., Buffalo, N. Y.
Westinghouse Machine Co., Pittsburg, Pa.
The Ball Engine Co., Erie, Pa.
Newport News Shipbullding & Dry Dock
Co., Newport News, Va.
Siruthers, Wells & Co., Warren, Pa.
W. D. Forbes & Co., Hoboken, N. J.
Newburg Ice Machine & Engine Co., Newburgh, N. Y.
James Leffel & Co., Springfield, O.
Smith-Courtney Co., Richmond, Va.
Lidgerwood Mfg. Co., New York, N. Y.
Union Iron Works Co., Selma, Ala
The Balley-Lebby Co., Charleston, S. C.
Charlotte Machine Co., Charlotte, N. C.
Remington Machine Co., Charlotte, N. C.
Remington Machine Co., Charleston, S. C.
Charlotte Machine Co., Charleston, S. C.
Engines. (Gas and Gasoline.)
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Charleston, S. C.
Engines. (Gas and Gasoline.)
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Charloston, S. C.
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Charloston, S. C.
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Charloston, S. C.
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Columbus, O. W.

Engines. (Gas and Gasoline.)
Frontier Iron Works, Detroit, Mich.
Columbus Machine Co., Columbus. O.
J. Thompson & Sons' Mfg. Co., Beloit, Wis.
Lambert Gas & Gasoline Engine Co., Anderson, Ind.
Springfield Gas Engine Co., Springfield, O.
J. W. Ruger & Co., Buffalo, N. Y.
The Foos Gas Engine Co., Springfield, O.
Otto Gas Engine Works, Philadelphia, Pa.
Engine Works, Philadelphia, Pa.

Engines. (Oll.) Priestman & Co., Inc., Philadelphia, Pa.

Priestman & Co., Inc., Funda, Engravers.
Engravers.
Brown-Blerce Co., Dayton, O.
Baltimore Engraving Co., Baltimore, Md.
Exhaust Heads. (Steam.)
Bingham & Co., Philadelphia, Pa.
Explosives.
Repauno Chemical Co., Wilmington, Del.

Fans. (Ventilating.) ; F. Sturtevant Co., Boston, Mass tuffalo Forge Co., Buffalo, N. Y. Feed Water Heaters.

Frentier Iron Works, Detroit, Mich.
S. L. Holt & Co., Boston, Mass.
Pittsburg Feed-Water Heater & Engineering Co., Pittsburg, Pa.
Warren Webster & Co., Camden, N. J.
Jas. Berryman, Philadelphia, Pa.
National Pipe Bend. Co., New Haven, Conn.
Stilwell-Bierce & Smith-Vaile Co., Dayton, O.
Felting. (Hair.)
Baeder, Adamson & Co., Philadelphia, Pa.
Fencing.

Fencing.

Ellis & Helfenberger, Indianapolis, Ind.
C. Hanika & Sons, Muncie, Ind.
Dow Wire Works Co., Louisville, Ky.
Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Fertilizer Machinery.

Fertilizer Machinery.
J. R. Alsing Co., New York, N. Y.
C. H. Dempwolf & Co., York, Pa.
Foos Mfg. Co., Springfield, O.
Bradley Pulverizer Co., Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
The Balley-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Valk & Murdoch Iron Wks., Charleston, S. C.
Walker & Elliott, Wilmington, Del.

Walker & Elliott, Wilmington, Dec. Files.

G. & H. Barnett Co., Philadelphia, Pa. Chas, H. Besly & Co., Chicago, Ill. Nicholson File Co. Providence, R. I.

Fire Brick.

Pomona Terra Cotta Co., Pomona, N. C.
H. Stevens's Sons Co., Macon, Ga.

Powhatan Clay Mfg. Co., Richmond, Va.

Fire Extinguishers.

L. B. Brickenstein, Salem, N. C.

The Bailey-Lebby Co., Charleston, S. C.

General Fire Exting. Co., Providence, R. I.

Charlotte Machine Co., Charlotte, N. C.

Flaxthie Shafts. Flexible Shafts.
Stow Flexible Shaft Co., Philadelphia, Pa

Stow Flexible Shaft Co., Philadelphia, Pa. Flour and Grist Mill Machinery and Supplies.

J. R. Alsing Co., New York, N. Y. Norrish, Burnham & Co., Inc., Gien Rock, Pa. Nordyke & Marmon Co., Indianapolis, Ind. Munson Bros., Utica, N. Y. Sprout, Waldron & Co., Muncy, Pa. B. F. Starr & Co., Baltimore, Md. Sturtevant Mill Co., Boston, Mass. W. J. Clark Co., Salem, O. Union Iron Works, Selma, Ala. Wolf Co., Chambersburg, Pa. H. W. Caldwell & Son Co., Chicago, Ill. Flue Cleaners.

Flue Cleaners.

agonda Mfg. Co. Springfield, O.
W. Paxson Co., Philadelphia, Pa.

uffalo Forge Co., Buffalo, N. Y.

laduct Brass Works, Cleveland, O.

Forges.
t. F. Sturtevant Co., Boston, Mass.
Forgings.

Forgings.

J. H. Williams & Co., Brooklyn, N. Y.
Forgings. (Steel.)

Janney & Steinmetz, Philadelphia, Pa.
Keystone Drop Forge Co., Philadelphia, Pa.
Foundry Equipments and Supplies.

J. W. Paxson & Co., Philadelphia, Pa.
Fuel Economiser.

Broomell, Schmidt & Co., Ltd., York, Pa.
The Puel Economizer Co., Matteawan, N. Y.

The Fuel Economizer Co., Matteawan, N. Y. Fuel Gas Producers.
B. D. Wood & Co., Philadelphia, Pa.
Furnace Builders.
Edw. E. Erikson, Pittaburg. Ps.
Miller Bros. & Co., Pittaburg. Ps.
Alabama Rridge & Boll. Co., Birmingham Ala.
Gages, Recording) and Counters.
Crosby St. Gage & Valve Co., Boston, Mass.

Gas and Steam Fitters' Tools Henry B. Pancoast & Co., Philadelphia, Pa. D. Saunders's Sons, Yonkers, N. Y.

D. Saunders's Sons, Yonkers, N. 1.
Gearing.
Fairmount Mch. Co., Philadelphis, Pa.
The Jeffrey Mfg. Co., Columbus, O.
Morse, Williams & Co., Philadelphia, Ps.
Chester Steel Castings Co., Phila., Pa.
Glass, (Art, Stalned.)
L. Grosse Art Glass Works, Pittsburg, Pa.

Glass. (Plate.)
Pittsburg Plate Glass Co., Pittsburg, Pa.
Glass. (Floor and Skylight.)
Pittsburg Plate Glass Co., Pittsburg, Pa.
Grates and Grate Bars.

contier from Works, Detroit, Mich. he Globe Machine Works, Cincunati, O. artley's Boller Works, Montgomery, Ala. cClave, Brooks & Co., Scranton, Pa.

Grain Elevator Supplies.
W. J. Clark Co., Salem, O.
H. W. Caldwell & Son Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Eng'g Co., Nicetown (Phila.), Pa.

Link-Belt Eng'g Co., Alceton Graphite. Standard Oil Co., New York, N. Y. Holmes Fibre Graphite Mfg. Co., Phila., Pa. Jos. Dixon Crucible Co., Jersey City, N. J. Grater. (Household.) West Manufacturing Co., Buffalo, N. Y.

Grease Cups. unkenheimer Co., Cincinnati, O. Grinding and Polishing Mehy.

Scranton Corundum & Emery Wheel Works, Scranton, Pa. C. N. Cady, Canastota, N. Y. Vitrified Wheel Co., Westfield, Mass. Sterling Emery Wheel Co., Tiffin, O. Norton Emery Wheel Co., Worcester, Mass.

Groovers.
Huther Bros., Rochester, N. Y.
Gymnastum and Athletic Supplies.
A. J. Alford Sporting Goods Co., Balto., Md. A. J. Alford Sporting Goods Co., Balto., Md.

Hammers. (Steam and Power.)

Toledo Machine & Tool Co., Toledo, O.

The E. S. Stiles Press Co., Watert'n, N. Y.

E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.

J. M. Robinson & Co., Cincinnati, O.

Handle Mehy. [See Woodwork'g Mchy.]

J. A. Fay & Co., The Egan Co., Cincinnati, O.

Ober Lathe Co., Chagrin Falls, O.

S. C. Forsaith Mch. Co., Manchester, N. H.

Trevor Mg. Co., Lockport, N. Y.

Hardware Machinery.

E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.

Bliss Co., 137 Plyn

lyn, N. Y.

Hardware Specialties.

Chas. H. Besly & Co., Chicago, Ill.

Standard Tool Co., Cleveland, O.

Wrightsville Hardware Co., Wrightsv'e, Pa.

W. J. Clark Co., Salem, O.

Cronk Hanger Co., Elmira, N. Y.

Covert Mfg. Co., West Troy, N. Y.

Hardwoods.

A. I. Lyon & Co., Baltimore, Md.

Price & Heald, Baltimore, Md.

Price & Co., Baltimore, Md.

E. D. Albro Co., Cincinnati, O.

Brice & Co., Baltimore, Md.

D. Albro Co., Cincinnati, O.

Heating Apparatus.

L. B. Brickenstein, Salem, N. C.

Warren Webster & Co., Landen, N. J.

Broomell, Schmidt & Co., Ltd., York, Pa.

The Peck-Hammond Co., Cincinnati, O.

T. H. Brooks & Co., Cleveland, O.

T. H. Brooks & Co., Cleveland, O.

T. H. Brooks & Co., Cleveland, O.

Hoisting Machinery.

The Case Manufacturing Co., Columbus, O.

Joseph F. McCoy Co., New York, N. Y.

The Jeffrey Mfg. Co., Columbus, O.

Lambert Hoisting Eng. Co., Newark, N.

Contractors' Plant Mfg. Co., Suffalo, N.

Brown Hoist & Con. Mch. Co., Cleveland,

Lidgerwood Mfg. Co., New York, N. Y.

John F. Byers Machine Co., Ravenna, O.

Sullivan Machinery Co., Chicago, Ill.

Hoase.

Sullivan Machinery Co., Unicago, III.

Hose.

Hose.

The Bradford Belting Co., Cincinnati, O. Eureka Fire Hose Co., New York, N. Y.

J. Car Spring & Rub. Co., Jersey City, N. J.

Boston Belting Co., Boston, Mass.

Rossendale-Reddaway Belting & Hose Co., Newark, N. J.

Hose. (Cotton.)

Eureka Fire Hose Co., New York, N. Y.

N. J. Car Spring & Rub. Co., Jersey City, N. J.

Boston Belting Co., Boston, Mass.

Hose Reel.

The Hartzell Novelty Works, Alliance, O.

Hotels.

Hotels.
Sew Atlantic Hotel, Norfolk, Va.
Hunting and Sporting Supplies.
A. J. Alford Sporting Goods Co., Balto., Md. Hydraats. hapman Valve Mfg. Co., Indian Orchard,

Hydraats.
Chapman Valve Mfg. Co., Indian Orchard,
Mass.
Ludlow Valve Mfg. Co., Troy, N. Y.
R. D. Wood & Co., Philadelphia, Pa.
Ice-Making Machinery.
The Vulcan Works, Chester, Pa.
John Featherstone's Sons, Chicago, Ill.
York Mfg. Co., York, Pa.
The Fred. W. Wolf Co., Chicago, Ill.
Lombard Iron Wiss. & Sup. Co., Augusta, Ga.
Stilwell-Bierce & Smith-Valle Co., Dayton, O.
Newburgh Ice Machine & Engine Co., Newburgh, N. Y.
Remington Machine Co., Wilmington, Del.
Frick Co., Waynesboro, Pa.
Ice & Refrigerating Mch. Supplies.
The Klechler Mfg. Co., Sincinnati, O.

The Kiechler Mfg. Co., Cincinnati, O. The Fred. W. Wolf Co., Chicago, Ill.

Injectors.
The Lunkenheimer Co., Cincinnati, O. Jenkins Bros., New York, N. Y.
Penberthy Injector Co., Detroit, Mich. Insurance.
Hartford Steam Boller Inspection & Insurance Co., Hartford, Conn.

ance Co., Hartford, Conn.
Iron.
Apollo Iron & Steel Co., Pittaburg, Pa.
Iron Brokers.
Justice Cox. Jr., Philadelphia, Pa.
Edward J. Etting, Philadelphia, Pa.

iron Buildings and Roofs.

iron Buildings and Roofs.
Riter-Conley Co., Pittsburg, Pa.
James Stewart & Co., St. Louis, Mo.
Iron Chimneys.
M. Zeir & Co., New Albany, Ind.
Struthers, Wells & Co., Warren, Pa.
York Mfg. Co., York, Pa.
Ironworking Machimery.
The Davis & Egan Mch. Tool Co., Cincinnati, O.
The Means & Fulton Iron Works, Birmingham, Ala.
Toledo Machine & Tool Co., Toledo, O.
The Pratt & Whitney Co., Hartford, Conn.
F. E. Reed Co., Worcester, Mass.
Dietz, Schumacher & Boye, Cincinnati, O.
E. W. Bliss Co., 137 Plymouth street, Brooklyn, Y.
W. D. Forbes & Co., Hoboken, N. J.
Bradford Mill Co., Cincinnati, O.
Fifield Tool Co., Lowell, Mass.
Chas, H. Besly & Co., Chicago, Ill.
J. M. Robinson & Co., Cincinnati, O.
Draper Mch. Tool Co., Worcester, Mass.
Stow Flexible Shaft Co., Ltd., Phila., Pa.
Nigara Stamping & Tool Co., Buffalo, N. Y.
Iron and Steel Plates.

Niagara Stamping & Tool Co., Buffalo, N Iron and Steel Plates. Janney & Steinmetz, Philadelphia, Pa. Jacks. (Hydraulic-lifting.) Joseph F. McCoy Co., New York, N. Y. Knitting Machinery. Scott & Williams, Philadelphia, Pa. Branson Machine Co., Philadelphia, P Knuckles for Car-Couplers. Chester Steel Castings Co. Philadelphia

Chester Steel Castings Co., Philadelphia, Pa. Lamps. (Arc and Incandescent.)
The United Electrical Imp. Co., Phila., Pa. Fort Wayne Elec. Corp., Fort Wayne, Ind. Westinghouse Elec. & Mfg. Co., Pittsb'g, Pa. Lands.

Westinghouse Elec. & Mfg. Co., Pittsbg, Pa.
Lands.
B. M. Smith, Shreveport, La.
Radford Board of Trade, Radford, Va.
A. W. Taylor Land & Lumber Co., Summerville, S. C.
Willis, Charleston, S. C.
South, Real Estate Ex., Clarksburg, W. Va.
Exch'ge Bank, & Trust Co., Charleston, S.C.
Lath. (Expanded Metal Steel.)
Southern Expanded Metal Co., Washington, D. C.
(See advt. for other addresses.)
Laundry Machinery.

Laundry Machinery.

Wilson Laundry Mehy. Co., Columbia, Pa. S. H. Sinelair Co., Chicago, Ill. Lead. (Sheet.) ames Robertson Mfg. Co., Baltimore, Md. Lead and Tin. (Pig.) Theo. Heirtz & Son, St. Louis, Mo.

Lights. (Sidewalk.)
T. H. Brooks & Co., Cleveland, O.
Lights. (Torch—Contractors.)
Wells Light Mfg. Co., New York, N. Y.

Wells Light Mig. Co., Alexa, Ala.
Lime.
Calera Lime Co., Calera, Ala.
R. E. Bowdon, Calera, Ala.
Austin White Lime Co., Austin, Texas.
S. E. Lime & Cement Co., Charleston, S. C.
Link. (Open.)
Keystone Drop Forge Co., Philadelphia, Pa.

Keystone Drop Forge Co., Philadelphia, Pa.

Locomotive Builders. [See Railroad Equipment and Supplies.]

Climax Mfg. Co., Corry, Pa.

Pittsburg Locomotive Works, Pittsburg, Pa.

H. K. Porter & Co., Pittsburg, Pa.

Baldwin Locomotive Wks., Philadelphia, Pa.

Looms and Weaving Machinery.

Fairmount Machine Co., Philadelphia, Pa.

Crompton & Knowles Loom Works, Worcester, Mass.

Mason Machine Works, Taunton, Mass.

Kilburn, Lincoln & Co., Fail River, Mass.

Charlotte Machine Co., Charlotte, N. C.

American Supply Co., Providence, R. I.

Draper Co., Hopedale, Mass.

Lowell Machine Shop, Boston, Mass.

Providence Machine Co., Providence, R. I.

Lubricators and Oil Cups.

Detroit Lubricator Co., Detroit, Mich.

Lubricators and Oil Caps.

Detroit Lubricator Co., Detroit, Mich.
Lehigh Valley Brass Wks., 8. Bethieh'm, Pa.
Crosby St. Gage & Valve Co., Boston, Mass.
The Lunkenheimer Co., Cincinnati, O.
Chas H. Besly & Co., Chicago, Ili.
Penberthy Injector Co., Detroit, Mich.

Penberthy Injector Co., Detroit, Mich.

Lumber.
Price & Heald, Baltimore, Md.
Price & Co., Baltimore, Md.
A. I. Lyon Lumber Co., Baltimore, Md.
Che E. D. Albro Co., Cincinnati, O.

Machinery.

Prophysics From Mch. Proc. Co. Cincinna.

The E. D. Albro Co., Cincinnati, O.

Machinery.

The Davis & Egan Mch. Tool Co., Cincinnati, O.
Fairmount Machine Co., Philadelphia, Pa.
Muirhead Machine Works, Pittston, Pa.
The Levi Houston Co., Montgomery, Pa.
H. L. Beach, Montrose, Pa.
Valdosta Fdy. & Mch. Co., Valdosta, Ga.
The Pratt & Whitney Co., Hartford, Conn.
Chattanooga Mchy. Co., Chatta'n'ga, Tenn.
F. E. Reed Co., Worcester, Mass.
Cordesman Machine Co., Cincinnati, O.
Baxter D. Whitney, Winchendon, Mass.
The Wright Co., Lowell, Mass.
Bradford Mill Co., Cincinnati, O.
Baxter D. Whitney, Winchendon, Mass.
The Bailey-Lebby Co., Charleston, S. C.
J. A. Fay & Co. The Egan Co., Cincinnati, O.
Smith-Courtney Co., Richmond, Va.
E. D. Wood & Co., Philadelphia, Pa.
S. C. Forsaith Mch. Co., Manchester, N. H.
Stow Flexible Shaft Co., Ltd., Phila., Pa.
Machinery. (Special.)
Walker & Allan, Lansing, Mich.
J. R. Alsing Co., New York, N. Y.
M. F. Abbe, New York, N. Y.
M. F. Abbe, New York, N. Y.
M. F. Abbe, New York, N. Y.
Machine Knives.
Chattanooga, Saw Wiss., Chattanooga, Tenn.

Frank Toomey, Philadelphia, Pa. Smith-Courtney Co., Richmond, Va. Machinists' Supplies. Chas H. Besly & Co., Chirago, II.

Machinists' Supplies.
Chas H. Besly & Co., Chi'ago. Il.
Vail Chartes.
Cutler Mfg. Co., Rochester, N. Y.
Mill Engineers.
Hates & Ballinger, Philadelphia, Pa.
Wu. A. Chapman & Co., Providence, R. I.
Wu. A. Chapman & Co., Providence, R. I.
William Machines.
The Davis & Egau Mch. Tool Co., Cincinnati, O.
The Pratt & Whitney Co., Hartford, Conn.
Mill Supplies.
J. R. Alsing Co., New York, N. Y.
J. A. Gowdey & Son, Providence, R. I.
De Lonch Mill Mfg. Co., Atlanta, Ga.
Lombard Iron Wise, & Sup. Co., Augusta, Ga.
Wm. M. Bird & Co., Charleston, S. C.
Spront. Waldron & Co., Muncy, Pa.
Chas. H., Besly & Co., Chicago, Ill.
B. F. Starr & Co., Baltimore, Md.
Smith-Courtney Co., Richmond, Va.
W. J. Clark Co., Salem, O.
The Balley-Lebby Co., Charleston, S. C.
Mecklenburg Iron Works, Charlotte, N. C.
Queen City Supply Co., Cincinnati, O.
Cameron & Barkley Co., Charleston, S. C.
American Supply Co., Philadelphia, Pa.
Alpha Palnt & Mineral Co., Philadelphia, Pa.

Cameron & Barkley Co., Charleston, S. C. American Supply Co., Providence, R. I. Minerals.

Minerals.

Alpha Paint & Mineral Co., Philadelphia, Pa E. Willis, Charleston, S. C.

Mining Screens.

McLanahan & Stone, Hollidaysburg, Pa. A. J. Beckley & Co., Garwood, N. J.

Mundt & Sons, New York, N. Y.

Harrington & King Perf'g Co., Chicago, Ili. The Hendrick Mfg. Co., Ltd., Carbondale, Pa. Mixing Machinery.

J. R. Alsing Co., New York, N. Y.

C. H. Dempwolf & Co., York, Pa.

W. D. Dunning, Syracuse, N. Y.

Walker & Elliott, Wilmington, Del.

Mortar Colors.

Sami. H. French & Co., Philadelphia, Pa.

Nails. (Shoe.)

Clendenin Bros., Baltimore, Md.

Nails. (Wire.)

Consolidated Steel & Wire Co., Pittsburg, Pa.

Others.

Consolidated Steel & Wire Co., Pittsburg, Pa Olls., Standard Oll Co., New York, N. Y., Win. M., Bird & Co., Charleston, S. C. Chas. H. Beely & Co., Chicago, Ill. Fernandina Oll & Cre. Wis., Fernandina, Fla Wm. C. Robinson & Son, Baltimore, Md. Packer. (Cement, Paint, etc.) The S. Howes Co., Silver Creek, N. Y.

The Bradford Belting Co., Cincinnati, O. The American Balance Slide Valve Co., Jersey Shore, Pa.

N. J. Car Spring & Rub. Co., Jersey City, N. J. Boston Belting Co., Boston, Mass.

Jenkins Bros., New York, N. Y.

N. J. Car Spring & Rub. Co., Jersey City, N. J. Boston Beiting Co., Boston, Mass. Jenkins Bros., New York, N. Y.

Paint.

National Paint Works, Williamsport, Ps. Alpha Paint & Mineral Co., Philadeiphia, Pa Chattanooga Steel Roof. Co., Chatt., Tenn. Standard Oil Co., New York, N. Y.

Alden Speare's Sons & Co., Boston, Mass. The Armitage Mfg. Co., Richmond, Vs. Standard Paint Co., New York, N. Y.

C. S. Garrett & Son, Philadeiphia, Pa. Wm. M. Blird & Co., Charleston, S. C.

Samuel H. French & Co., Philadeiphia, Pa. Joseph Dixon Crucible Co., Jersey City, N. J. Fernandina Oil & Cre. Wks., Fernandina. Fis. Paint. (Asbestine Cold Water.)

Alden Speare's Sons & Co., Boston, Mass. Paint. (Fire-resisting.)

Standard Paint Co., New York, N. Y.

Alden Speare's Sons & Co., Boston, Mass. Paper. (Roofing, Bldg., Sheathing, etc.)

Garrett-Buchanan Co., Philadeiphia, Pa. The Standard Paint Co., New York, N. Y.

National Roofing & Sup. Co., Louisville, Ky. The Armitage Mfg. Co., Richmond, Va. C. S. Garrett & Son, Philadeiphia, Pa. Fay Manilla Roofing Co., Camden, N. J. Paper. (Sand. Emery.)

Baeder, Adamson & Co., Philadeiphia, Ps. Papier Mache. (Capitals, Brackets, etc.)

L. Grosse Art Glass Works, Pittsburg, Ps.

Paying Matertisi.

National Roofing & Sup. Co., Louisville, Ky. Paring Matertisi.

National Roofing & Sup. Co., Louisville, Ky. Paring Matertisi.

National Roofing & Sup. Co., New York, N. Y. Pens. (Fountain.)

Pens. (Fountain.)
L. E. Waterman Co., New York, N. Y.
Perforated Metal.

L. E. Waterman Co., New York, N. Y.
Perforated Metal.
Chas. H. Besij & Co., Chicago, Ili.
A. J. Beckley & Co., Garwood, N. J.
The Hendrick Mfg. Co., Ltd., Carbondale, Pa.
Mundt & Sous, New York, N. Y.
Harrington & King Perf'g Co., Chicago, Ili.
Phosphate Machinery.
J. R. Alsing Co., New York, N. Y.
Walker & Ellilott, Wilminston, Del.
C. H. Dempwolf & Co., York, Pa.
Foos Mfg. Co., Springfield, O.
Bradley Pulveriser Co., Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
McLanahan & Stone, Hollidayaburg, Pa.
Valk & Murdoch Iron Wks., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
The Balley-Lebby Co., Charleston, S. C.
The Balley-Lebby Co., Charleston, S. C.
Thesphate Screens.
A. J. Beckley & Co., Garwood, N. J.
Mundt & Bons, New York, N. Y.
Harrington & King Perf'g Co., Chicago, Ill.
The Hendrick Mfg. Co., Ltd., Carbondale, Pa.
McLanahan & Stone, Hollidayaburg, Pa.
Pillow Blocks.
Norrish, Burnham & Co., Inc., Gien Rock, Pa.
Golden Fdy. & Mch. Co., Columbus, Ga.
Pipe. (Cast Iron and Steel.)
Fulton Steam Boller Works & Foundry, Richmond, Ind.
R. D. Wood & Ce., Philadelphia, Pa.
Chattanooga Fdy. & P. Wks., Chatts., Tenn.
Pipe. (Coll.)
Natonel Pipe Rend, Co., New Haven, Conn.

Pipe. (Coll.) Intional Pipe Bend. Co., New Haven, Conn.

ARCHITECTS, CIVIL ENGINEERS, MINING ENGINEERS, CHEMISTS, Etc.

Thorburn Reid. Richard R. Bryan.

THORBURN REID CONSULTING ELECTRICAL ENGINEERS.

Plans and specifications for Power Transmission, Utilization of Water Powers, Railway and Lighting Central Stations.

Construction Supervised Electrical Apparatus Designed. 120 Liberty St., New York City. Long Distance Telephone, Cortlandt, 2708.

HALES & BALLINGER, Architects & Mill Engineers,

8. W. Corner 12th & Chestnut Sts., PHILADELPHIA, PA.

TOWER & WALLACE,

ARCHITECTS AND ENGINERRS.
Ashley B. Tower, M. am Sac. C. E., Consulting Engineer.
1016 Townsend Bildg, Broadway & 16th St., New York.
Holyoke, Mans.
Surveys, plans, specifications and estimates for the design and equipment of paper, fibre and textile mile a
lower development and transmission. Evaluations and
negotiations for manufacturing property.

C. R. MAKEPEACE & CO Architects and Mill Engineers OVIDENCE, R. I. Plans, Specifications and Esti-mates furnished for Cotton & Woolen Mills

TECHNICAL 50 CENTS EDUCATION 50 A WEEK ELECTRICITY

team Engineerin Ingineering: Refrig rehitectural, or Mec and Mapping; Sanit sheet Metal Parts GUARANTEED SUCCESS.





JOHN McDONALD & SONS,

Engineers, Archilects and Contractors.

onsulting engineers and constructors of water ks, sewers, development of water powers retransmission and general public works stimates given and correspondence solicited. Tr McDonald, Architect and Civil Engineer Chas. K. McDonald, Civil Engineer.

706 Colorado St., AUSTIN, TEX.

CI. ALBER, C. E.

ALBER & BYRNE.

CIVIL, MINING, BRIDGE, MECHANICAL,
AND CONSULTING ENGINEERS.
Railroads and Bridges, Mines and Mining
Machinery, Furnaces and Coke Ovens, City
Sewerage and Water Works, Surveys and Reports
on Mineral Lands.
Office, 1821/8 Second Avenue.

ice, 1821% Second Avenue, BIRMINGHAM, ALA.

Columbia, S. C. W. B. SMITH WHALEY & CO., MILL ENGINEERS

EDWARD E. ERIKSON, Engineer & Contractor, Conestoga Bldg., Pittsburg, Pa. Furnaces and Soaking Pits. Erikson Water Sealed Gas-Producer produce tubular boilers, saving 20% fuel; no smoke. Steel Buildings for all pur

GEORGE F. GLASKIN & CO.

Mechanical Engineers and Contractors, 40 N. Forsyth St.

ATLANTA, GA.

Heavy Masonry Contractors.

Steam and Water Heating Apparatus Complete Power Plants Erected. Steam Supplies.

James Stewart & Co.

HENRY E. KNOX, Jr. Consulting and Hydraulic Engineer

Artesian and Tube Wells a specialty. General Water Works, Construction, Surveys, Plans and Estimates. Borings made for Architects, Bridge and Railroad Engineers. Pipe and Pumping Machinery.

CHARLOTTE, N. C.

ENGINEERS

CONTRACTORS.

RITER-CONLEY COMPANY,

Iron and Steel Construction

"Embracing" Blast Furnaces, Steel Plants, Iron Rcofs and Frames, Riveted Girders, Columns, etc. Oil and Water Tanks, Stand Pipes, Grain and Gas Tanks Gas Holders, Boilers, Stills. Refinery Work Designed, Prepared and Erected.

General Office: 55 and 56 Water Street, Pittsburg, Pa. New York Office: 39 and 41 Cortlandt Street, New York, N. Y.

Miller's Patent Soaking Pit, O. H.,
Tube Welding, Heating and Annealing Furnaces. Plants Built Complete. Best Work. Modern Designs
and Guaranteed Results.

PITTSBURGH, PA.

THE DUFF GAS PRODUCER HAS NO EQUAL.

T. L. FOSSICK COMPANY,

Darlington - OOLITIC - Limestone. Quarries and Mills at ROCKWOOD, ALA. SUPERIOR BUILDING Office at SHEFFIELD, ALA.

LARGEST PLANT AND BEST FACILITIES IN THE SOUTH. SUPERIOR BUILDING STONE.

COMMERCIAL ROSENDALE CEMENT

GUARANTEED ABSOLUTELY HYDRAULIC.

WM. M. BIRD & CO., Southern Agents.

COMMERCIAL WOOD & CEMENT CO.

PHILADELPHIA, PA. Gwol. Agents.

L'ATHBURY, SPACKMAN & BACHE

Consulting, Mining and Civil Engineers. Chemical and Physical Laboratories, Reports made of Mining Properties. Analyses and assays of all materials.

The Hutton Engineering Co.

Consulting and Contracting

ELECTRICAL AND MECHANICAL ENGINEERS. Central Stations.

> Electric Railways, Steam and Power Plants.

BALTIMORE, MD.

LEXINGTON, VA.

B. C. HOWARD

Consulting Electrical Engineer. Personal attention given to plans and spe

33 MFRS. RECORD BLDG. BALTIMORE, MD.

S. J. MACFARREN, M. E. **Electric, Traction** and Transmission Engineering.

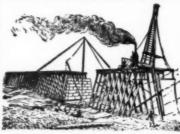
Water-Power Development. Introduction of Capital.

Financing Reports a Specialty.

Lock Box 864. PITTSBURG, PA.

WM. A. CHAPMAN & CO. Mill Builders

Main Office: PROVIDENCE, R. I.



WATKINS & HARDAWAY

ENGINEERS AND CONTRACTORS, Chalifoux Building, Birmingh General Railway Work. Birmingham, Ala Bridges and Masonry.

Especial Equip alpment for heavy pile driving and treatle work.

FOR INFORMATION ABOUT

U. 8. MAIL CHUTES

WHICH ARE
A NECESSITY IN OFFICE BUILDINGS AND HOTELS.
Write to the sole makers,

THE CUTLER MFG.CO., Rochester, N.Y.

Importers Portland Cement and Terne Plates. C. M. GILBERT & CO. SAVANNAH, GA.

SOUTHEASTERN LIME & CEMENT CO. CHARLESTON, S. C.

Direct importers

ENGLISH and BELGIUM PORTLAND CEMENTS. Southern Agents New York & Rosendale Cemer Co.'s Standard Hydraulic Cement. Brooklyn Bridge and Hudson River Brands.

William M Ried & C CHARLESTON, S. C.

PORTLAND CEMENT.

Agents for

percial Rosendale Cement. Howe Standard Scales.

Diebold Fire and Burglar Proof Safes.

Dealers in

MILL SUPPLIES OF ALL KINDS, OILS, PAINTS and PAINTING MATERIAL.

DR. OTTO MEYER, Analytical and Consulting Chemist, 1107 E. Cary St., Richmond, Va Analyses of natural and artificial products. In-dustrial processes investigated and worked out Mineral properties examined.

N. P. PRATT LABORATORY,
Fitten Building, ATLANTA, GA.
Assays and analyses of all natural and artificial
products. Chemical and mining engineering.

LUCIUS P. BROWN,
Cumberland Publishing Bldg., Nashvii.e, Tenn.
Analytical and Consulting Chemist and Assayer.
Assays and analyses of all classes of materials.
Examinations of mineral properties.

JOHN SANDERSON,

F. I. C., F. C. S.

Analytical Chemist and Assayer, MIDDLESBOROUGH, KY.

DR. HENRY FROEHLING. Analytical and Consulting Chemist, 17 SOUTH 12th STREET,

Analyses and assays of ores of every kind, iron, steel and other metals, coal and coke, clays, marls and limestones, phosphates and fertilizers, mineral waters, waters for drinking and for boiler use, oils, commercial products, etc.

Estimates promptly furnished. Geological and chemical investigation of mineral properties of the South.

Guit Foux,

CIVII Engineer. Contractor & Builde
GUILFOUX & BLANC,
General Contractors,
Canal, Iron Bridge, Waterworks and Railroad Building.
All kinds of Building Material for above line
Bought and Sold on Commission.

NEW IBERIA, LOUISIANA.

C. H. NORTON, Contractor and Builder, Cotton Factories, Residences, Churche Business Buildings. All Classes of Heavy and Fancy Buildings.

Correspondence Solicited.

DURHAM, N. C

PORTABLE ELEVATORS BARREL RACKS.

Fox Portable Elevator & Rack Co. 120 and 122 Liberty St., NEW YORK.

THE POWHATAN CLAY MFG. CO.

MANUFACTURERS OF

CREAM WHITE and other PRESSED BRICKS and

Fire Bricks, also Drain Tile. Write for prices.

AUSTIN WHITE LIME CO.
A. F. MARTIN & BRO., Proprietors.
415 Congress Ave., AUSTIN, TEX.
Manufacturers of the

Manufacturers of the
CELEBRATED AUSTIN WHITE LIME
and dealers in Portland and Rosendale Cements,
Plaster Sewer Pipe, Pire-Brick, etc.
Largest Lime Works in Texas, and best shipping
facilities. Write for prices.

CALERA LIME COMPANY,
Sole Manufacturers of
WHITE SWAN LIME,
CALERA, ALA.
White Swan Lime worth more to the consumer
than any other, it is the strongest, purest and
whitest made. For sugar refining can't be
equalled. For brick work and plastering it is
the best. You will make money by using the
best. Ask for prices before purchasing or other
information desired.
J. D. HARDY, Prest.

CALERA LIME.

Analysis, 99.65 PURE CARBONATE OF LIME.
Lays more brick, works cooler than any other
brand. WHITE AS SNOW, and for PLASTER
ING and FINISHING PURPOSES as well as
SUGAR REFINING it is unsurpassed. Dally
capacity goo barrels. Shipments made same day
order is received. For further information,
communicate

CLASSIFIED INDEX OF ADVERTISERS.

For ALPHARETICAL INDEX See Page 76

Pipe. (Lead.) ames Robertson Mfg. Co., Baltimore, Md. Pipe. (Sewer and Culvert.) Austin White Lime Co., Austin, Texas. Pomona Terra Cotta Co., Pomona, N. C. H. Stevens's Sons Co., Macon, Ga.

Pipe. (Wrought Iron.)
James Robertson Mfg. Co., Baltimore, Md
Ahrens & Ott Mfg. Co., Louisville, Ky.

Pipe Cutting & Threading Mchs.
Columbus Machine Co., Columbus, O.
Henry B. Pancoast & Co., Philadelphia, Pa.
D. Saunders's Sons, Yonkers, N. Y.

Pipe Wrenches.
H. Williams & Co., Brooklyn, N. Y

Plaster Ornaments.
Samuel H. French & Co., Philadelphia, Pa.

Plumbers' Supplies and Tools. H. Mueller Mfg. Co., Decatur, Ill. Halnes, Jones & Cadbury Co., Phila., Pa. James Robertson Mfg. Co., Baltimore, Md. Henry B. Pancoast & Co., Philadelphia, Pa.

Plumbago. Joseph Dixon Crucible Co., Jersey City, N.J Presses. (Baling, etc.) Alabama Fdy. & Mch. Wks., New Decatur,

Alabama Fdy. & Mch. Wks., New Decatur, Ala: G. H. Bushnell Press Co., Thompsonv'e, Conn. De Loach Mill Mfg. Co., Atlanta, Ga. Cardwell Machine Co., Richmond, Va. Roomer & Boschert Press Co., Syracuse, N.Y. Valk & Murdoch Iron Wks., Charleston, S.C.

Noomer & Boschert Press Co., Syracuse, N.Y. Valk & Murdoch Iron Wks., Charleston, S.C. Presses. (Stamping.)
Niagara Stamping & Tool Co., Buffalo, N. Y. West Manufacturing Co., Buffalo, N. Y. Toledo Machine & Tool Co., Toledo, O. The E. S. Stiles Press Co., Watert'n, N. Y. E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y. Pulleys, Shafting and Hangers. Fairmount Machine Co., Philadelphia, Pa. Jeanesville Iron Works Co., Jeanesville, Pa. Norrish, Burnham & Co., Glen Rock, Pa. The Jeffrey Mfg. Co., Columbus, O. A. & F. Brown, New York, N. Y. Lombard Iron Wks. & Sup. Co., Augusta, Ga. Golden Fdy. & Mch. Co., Columbus, Ga. Nordyke & Marmon Co., Indianapolis, Ind. Lane Mfg. Co., Montpeller, Vt. Wolf Co., Chambersburg Pa. Charlotte Machine Co., Charlotte, N. C. E. M. Freese & Co., Gallon, O. Walker & Elliott, Wilmington, Del. H. W. Caldwell & Son Co., Chicago, Ill. Pumps. (Centrifugal.)

Pumps. (Centrifugal.) Davis-Farrar Co., Erie, Pa

Pumps. (Hand and Power.)
The Humphryes Mfg. Co., Mansfield, O.

Pumps. (Power Boller-Feed.)

Epping-Carpenter Co., Pittsburg, Pa.

A. S. Cameron St. Pump Wks., New York, N.Y.
John H. McGowan Co., Cincinnati, O.

John H. McGowan Co., Cincinnati, O. Pumps. (Steam.)
Hall Steam Pump Co., Pittsburg, Pa. Albany Steam Trap Co., Albany, N. Y. Manistee Iron Works Co., Manistee, Mich. The Humphryes Mfg. Co., Mansdeld, O. The E. W. Van Duzen Co., Cincinnati, O. Mason Regulator Co., Boston, Mass. Snow Steam Pump Works, Buffalo, N. Y. Cameron & Barkley Co., Charleston, S. C. Stilwell-Bierce & Smith-Vaile Co., Dayton, O. John H. McGowan & Co., Cincinnati, O. Henry R. Worthington, New York, N. Y. Pulsometer St. Pump Co., New York, N. Y. Dean Bros. St. Pump Wks., Indianapolis, Ind. A. S. Cameron St. Pump Wks., New York, N. Y.

A. S. Cameron St. Pump Wks., New York, N.Y.
Pumping Machinery.
Hall Steam Pump Co., Pittsburg, Pa.
Manistee Iron Works Co., Manistee, Mich.
Henry E. Knox, Jr., Charlotte, N. C.
Snow Steam Pump Works, Buffalo, N. Y.
Pump Governor.
Viaduct Brass Works, Cleveland, O.
Albany Steam Trap Co., Albany, N. Y.
Mason Regulator Co., Boston, Mass.
E. Keeler Co., Williamsport, Pa.
Punching and Shearing Machinery
Walker & Allan, Lansing, Mich.

E. Keeler Co., Williamsport, Pa.

Punching and Shearing Machinery.
Walker & Allan, Lansing, Mich.
West Manufacturing Co., Buffalo, N. Y.
Toledo Machine & Tool Co., Toledo, O.
The Stiles & Fladd Press Co., Watert'n, N.Y.
E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.
Bertsch & Co., Cambridge City, Ind.
J. M. Robinson & Co., Cincinnati, O.
Niagara Stamp, & Tool Wks., Buffalo, N. Y.
S. C. Forsaith Mch. Co., Manchester, N. H.
Quarry and Stonecutting Mehy.
Sullivan Machinery Co., Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoil-Sargeant Drill Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Railroad Equipment and Supplies.
(New and Second-Hand.)
The Steel Rail Supply Co., New York, N. Y.
M. Fogg, Philadelphia, Pa.
Fitz-Hugh & Co., Chicago, Ill.
Haskins Williams & Co., Birmingham, Ala,
Clinax Mfg. Co., Corry, Pa.
New York Equipment Co., New York, N. Y.
Dailett & Co., Philadelphia, Pa.
Smith & Kilby Co., Anniston, Ala.
Block-Pollak Iron Co., Cincinnati, O.
Pittsburg Locomotive Wks., Pittsburg, Pa.
M. Mitshkun & Co., Detroit, Mich.
Poulterer & Co., Philadelphia, Pa.
The Balley-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
L. K. Hirsch, Chicago, Ill.
Robinson & Orr, Pittsburg, Pa.
Weir Frog Co., Cincinnati, O.
H. K. Porter & Co., Pittsburg, Pa.
Baldwin Locomotive Wks., Philadelphia, Pa.
Baldwin Locomotive Rys., Philadelphia, Pa.
Baldwin Locomotive

Ratin (Steel)
The Steel Rail Supply Co., New York, N. Y.
Aetna Stand. Iron & Steel Co., Bridgeport, O.

Reamers.
Morse Twist Drill & Mch. Co., New Bedford,
Mass.

Cleveland, O. Standard Tool Co., Cleveland, O.

Refrigerating Plants. [See Icemaking Machinery.]
Regulators. (Water & Steam Pressure.)
Prosby St. Gage & Valve Co., Boston, Mass.
I. Mueller Mfg. Co., Decatur, Ill.
Asson Regulator Co., Boston, Mass.
Henry R. Worthington, New York, N. Y. Regulators. (Damper.)
Mason Regulator Co., Boston, Mass.
Road Machinery.

Russell & Co., Massillon, O. The O. S. Kelly Co., Springfield, O. Kilbourne & Jacobs Mfg. Co., Columbus, O.

The O. S. Kelly Co., Springfield, O. Kilbourne & Jacobs Mfg. Co., Columbus, O. Roofing. (Felt, Tar, Asphait, Paper, etc.) Garrett-Buchanan Co., Philadelphia, Pa. National Roofing & Sup. Co., Louisville, Ky. The Armitage Mfg. Co., Richmond, Va. Standard Faint Co., New York, N. Y. Fay Manilla Roofing Co., Camden, N. J. Warren Chem. & Mfg. Co., New York, N. Y. Empire Paint & Roofing Co., Phila., Pa. C. S. Garrett & Son, Philadelphia, Pa. Roofing and Siding. (Metal.)

The New Columbus Bridge Co., Columbus, O. Chattanooga Steel Roof. Co., Chatta., Tenn. Cincinnati Corrugating Co., Piqua, O. Philadelphia Steel Roofing Co., Phila., Pa. Cortright Metal Roofing Co., Phila., Pa. Roofing. (Metal Shingles.)

Cortright Metal Roofing Co., Phila., Pa. Roofing. (Slate.)

John Galt & Sons, New York, N. Y. Slatington-Bangor Slate Syndicate, Slatington-Bangor State Syndicate, Slatington-Bangor Co., Cincinnati, O. Roope. (Transmission.)

Rope. (Transmission.) H. Channon Co., Chicago, Ill. Rubber Goods.

Rubber Goods.

N.J. Car Spring & Rub. Co., Jersey City, N.J. Boston Belting Co., Boston, Mass. Eureka Fire Hose Co., New York, N. Y. Sandpaper. [See Paper.]

Saws. [See Woodworking Machinery.]

Standard Saw Mill Machy. Co., Erie, Pa. H. Disston & Sons, Philadelphia, Pa. E. C. Atkins & Co., Indianapolis, Ind. W. F. & John Barnes Co., Hockford, Ill. Saw Mill Machinery.

E. C. Atkins & Co., Indianapois, Ind.
W. F. & John Barnes Co., Rockford, Ill.
Saw Mill Machinery.
High Point Mch. Works, High Point, N. C.
Standard Saw Mill Machy. Co., Erie, Pa.
H. L. Beach, Montrose, Pa.
Vaidosta Fdy. & Mch. Co., Valdosta, Ga.
De Loach Mill Mfg. Co., Atlanta, Ga.
Cordesman Machine Co., Cincinnati, O.
Manistee Iron Works Co., Manistee, Mich.
The E. D. Albro Co., Cincinnati, O.
A. B. Farquhar Co., Ltd., York, Pa.
Hench & Dromgold, York, Pa.
Union Iron Works Co., Selma, Ala.
The Balley-Lebby Co., Charleston, S. C.
Lane Mfg. Co., Montpeller, Vt.
J. A. Fay & Co., The Egan Co., Cincinnati, O.
Mecklenburg Iron Works, Charlotte, N. C.
Cameron & Barkley Co., Charleston, S. C.
Frick Co., Waynesboro, Pa.
S. C. Forsalth Mch. Co., Manchester, N. H.
E. & B. Holmes Mchy. Co., Buffalo, N. Y.
Scales. (Raliroad, etc.)
Stand. Scale & Sup. Co., Ltd., Pittsburg, Pa.
Schools and Colleges.
Lowell Textile School, Lowell, Mass.
International Corres. Schools, Scranton, Pa.
Screens. (Ore and Coke.)
The Jeffrey Mfg. Co., Columbus, O.
McLanahan & Stone, Hollidaysburg, Pa.
Hendrick Mfg. Co., Ltd., Carbondale, Pa.
Mundt & Sons, New York, N. Y.
A. J. Beckley & Co., Garwood, N. J.
J. Beckley & Co., Garwood, N. J.
A. J. Beckley & Co., Garwood, N. J.

Harrington & King Perf. Co., Chicago, Ili.
Screen Plates.
A. J. Beckley & Co., Garwood, N. J.
Hendrick Mig. Co., Ltd., Carbondale, Pa.
Harrington & King Perf. Co., Chicago, Ili.
Mundt & Sona, New York, N. Y.
Screws. (Machine and Wood.)
Franklin S. Miles, Philadelphia, Pa.
Philadelphia Mcb. Screw Wks., Phila., Pa.

Franklin S. Miles, Philadelphia, Pa. Philadelphia Mch. Screw Wks.. Phila., Pa. Screws. (Set, Cap and Special.)
Franklin S. Miles, Philadelphia, Pa. Cincinnati Screw & Tap Co., Cincinnati, O. Scroll Saws. (See Woodworking Mch.). Cordesman Machine Co., Cincinnati, O. H. L. Beach, Montrose, Pa. W. F. & John Barnes Co., Rockford, Ill. J. A. Fay & Co., The Egan Co., Cincinnati, O. Separator. (Steam and Grease.)
The Austin Separator Co., Detroit, Mich. Shafting. (See Pulleys.)
Sheet Copper.
Clendenin Bros., Baltimore, Md.
Sheet Metal Working Machinery.
West Manufacturing Co., Buffalo, N. Y. Toledo Machine & Tool Co., Toledo, O. The Jeffrey Mfg. Co., Columbus, O. The E. S. Stiles Press Co., Watert'n, N. Y. E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.
Bertsch & Co., Cambridge City, Ind. Chas. H. Besly & Co., Chicago, Ill. J. M. Robinson & Co., Cincinvati, O. Niagara Stamp. & Tool Co., Buffalo, N. Y. M. Zier & Co., New Albany, Ind.
Shingle, Lath and Stave Machinery.]
Lane Mfg. Co., Montpeller, Vt.

Shingte, Lath and Stave Machinery.

[See Woodworking Machinery.]

Lane Mfg. Co., Montpeller, Vt.

E. & B. Holmes Mchy. Co., Buffalo, N. Y.

Trevor Mfg. Co., Lockport. N. Y.

S. C. Forsaith Mch. Co., Manchester, N. H.

Ship Builders. (Iron and Steel.)

Newport News Shipbuilding & Dry Dock

Co., Newport News, Va.

Shoes and Diec.

Shoes and Dies. hrome Steel Works, Brooklyn, N. Y. Chrome Steel Works, Brooklyn, N. 1. Skylights. Pittsburg Plate Glass Co., Pittsburg, Pa. Slate. (Roofing and Blackboard.) John Galt & Sons, New York, N. Y. Williams & Schmid, Granville, N. Y.

Slatington-Bangor Slate Syndicate, Slating-Slatington-Bauger ton, Pa. David McKenna, Slatington, Pa. Sonpmakers' and Butchers' Mehy. H. Wm. Dopp & Son, Buffalo, N. Y.

Solder. Theo. Heirtz & Son, St. Louis, Mo.

Solder.
Theo. Heirtz & Son, St. Louis, Mo.
Speaking Tubes.
Chas. H. Besly & Co., Chicago, Ill.
Springs. (Spiral.)
The Cleveland Wire Spring Co., Cleveland, O.
Hansell Spring Co., Newark, N. J.
Chas. H. Besly & Co., Chicago, Ill.
N. J. Car Spring & Rub. Co., Jersey City, N. J.
Springs. (Raliway and Machinery.)
The Cleveland Wire Spring Co., Cleveland, O.
Hansell Spring Co., Newark, N. J.
Sprinklers. (Automatic.) [See Fire Extinguishers.]
Stair Treads. (Steel.)
A. J. Beckley & Co., Garwood, N. J.
Standpipes.
The Means & Fulton Iron Works, Birmingham, Ala.
Riter-Conley Co., Pittsburg, Pa.
York Mfg. Co., York, Pa.
M. Zler & Co., New Albany, Ind.
Alabama Bridge & Boll. Co., Birmingham, Ala.
Hartley's Boller Works, Montgomery, Ala.
Lombard Iron Wks. & Sup. Co., Augusta, Ga.
Birmingham Boller Wiss., Birmingham, Ala.
Steam Engine Indicators.
Crosby St. Gage & Valve Co., Boston, Mass.
Steam Gages.

Crosby St. Gage & Valve Co., Boston, Mass. Steam Gages.
Crosby St. Gage & Valve Co., Boston, Mass. Steam Heating.
L. B. Brickenstein, Salem, N. C.
The Peck-Hammond Co., Cincinnati, O.
T. H. Brooks & Co., Cleveland, O.
Broomell, Schmidt & Co., Ltd., York, Pa.
Warren Webster & Co., Camden, N. J.
Steam Shovels. [See Dredges and Excavators.]

cavators.)
Steam Traps.
B. F. Sturtevant Co., Boston, Mass.
Albany Steam Trap Co., Albany, N. Y.
William S. Haines Co., Philadelphia, Pa.
Mason Regulator Co., Boston, Mass,

Mason Regulator Co., Boston, Mass,

Steam Supplies.
Geo. F. Glaskin & Co., Atlanta, Ga.
Wallace Stebbins, Baltimore, Md.
Steamship Lines.
Buffalo & Cleveland Transit Co., Cleveland, O.
Richmond & York River Line, Balto., Md.
Merchants & Miners' Trans. Co., Balto., Md.
Baltimore Storage & Light. Co., Balto., Md.
Baltimore Storage & Light. Co., Balto., Md.
Steel. (Manufacturers of)
Aetna Stand. Iron & Steel Co., Bridgeport, O.
Apollo Iron & Steel Co., Pittsburg, Pa.
Chester Steel Castings Co., Phila., Pa.
Chrome Steel Works, Brooklyn, N. Y.
Steel. (Safe and Vault.)

Chrome Steel Works, Brooklyn, N. Y.
Steel. (Safe and Vault.)
Chrome Steel Works, Brooklyn, N. Y.
Stokers. (Mechanical.)
Westinghouse Machine Co., Pittsburg, Pa.
The Playford Stoker Co., Cleveland, O.
J. M. Wilkinson Mfg. Co., Bridgeport, Pa.
Stoppers and Nossles. (For Furnaces.)
R. B. Seidel, Philadelphia, Pa.

Stoves. roomell, Schmidt & Co., Ltd., York, Pa. Studs, Nuts. Franklin S. Miles, Philadelphia, Pa. Ancinnati Screw & Tap Co., Cincinnati, O.

Frankin S. Miles, Philadelphia, Pa. Cincinnati Screw & Tap Co., Cincinnati, O. Tanks. (Iron and Steel.)
The Klechler Mig. Co., Cincinnati, O. The Means & Fulton Iron Works, Birmingham, Ala.
Riter-Conley Co., Pittsburg, Pa.
York Mig. Co., York, Pa.
Fulton St. Boll. Wks. & Fdy., Richmond, Ind. Clonbrock Steam Boller Co., Brooklyn, N. Y. Broomell, Schmidt & Co., Ltd., York, Pa. Alabama Bridge & Boll. Co., Birmingham, Ala. Lombard Iron Wks. & Sup. Co., Augusta, Ga. Pittsburg Locomotive Wks., Pittsburg, Pa. Birmingham Boller Wks., Birmingham, Ala. Tudor Boller Mig. Co., Cincinnati, O. Valk & Murdoch Iron Wks., Charleston, S.C. Tanks., (Wood.)
G. M. Davis & Son, Palatka, Fla.
H. F. Lewis & Co., Ltd., New Orieans, La. Cypress Lumber Co., Apalachicola, Fla.
Tarred Goods.
C. S. Garrett & Son, Philadelphia, Pa.
Telephones.

Tarred Goods.
C. S. Garrett & Son, Philadelphia, Pa.
Telephones.
The Rawson Electric Co., Elyria, O.
Terme Piate.
Actna Stand. Iron & Steel Co., Bridgeport, O.
C. M. Gilbert & Co., Savannah, Ga.
Terra Cotta.
Pomona Terra Cotta Co., Pomona, N. C.
V. H. Kriegshaber, Atlanta, Ga.
Textile Machinery. [See Cotton Milli Machinery.]
Fairmount Machine Co., Philadelphia, Pa.
J. A. Gowdey & Son, Providence, R. I.
Crompton & Knowles Loom Works, Worcester, Mass.
Curtis & Marble Mch. Co., Worceater, Mass.
Curtis & Marble Mch. Co., Philadelphia, Pa.
Lowell Machine Shop, Lowell, Mass.
American Supply Co., Providence, R. I.
Draper Co., Hopedale, Mass.
Whitinsville Spin. Ring Co., Whitins'e, Mass.
Mason Machine Co., Charlotte, N. G.
Kilbura, Lincoln & Co., Fail River, Mass.
Providence Machine Co., Providence, R. I.
Esston & Burnbam Mch. Co., Pawtucket, R. I.
Timber.
E. Willis Charleston, S. C.

Timber.
E. Willis, Charleston, S. C.

E. Willia, Charleston, S. C.
Tinplate.
Aetna Stand. Iron & Steel Co., Bridgeport, O.
Tobacco Machinery.
Cardwell Machine Co., Richmond, Va.
Buckeye Iron and Brass Works, Dayton, O.
Tools. (Machinist' and Mechanics'.)
J. H. Williams & Co., Brooklyn, N. Y.
Morse Twist Drill & Mch. Co., New Bedford,
Wass.

The Davis & Egan Mch. Tool Co., Cincinnati.O. Fifield Tool Co., Lowell. Mass.

Standard Tool Co., Cleveland, O. Chas. H. Besly & Co., Chicago, Ill. Henry B. Pancoast & Co., Philadelphia, Pa. Tools. (Bicycle and Electrical.)
Toledo Machine & Tool Co., Toledo, O. E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y.

Tools. (Tinners.) Niagara Stamping & Tool Co., Buffalo, N. Y. Torch. (Contractors.) Wells Light Mfg. Co., New York, N. Y.

Towns.
Radford Board of Trade, Radford, Va

tadford Board of Traue,
harleston, S. C.
Trust Companies. [See Bankers and
Brokers.]
Tube Cutters.
The W. M. Freck Co., Chicago, Ill.
Tube Expanders.
Joseph F. McCoy Co., New York, N. Y.

Tube Expanders.
Joseph F. McCoy Co., New York, N. Y.
Tubing.
Chas. H. Besly & Co., Chicago, Ill.
Turbines. [See Water Wheels.]
Valve. (Slide.)
The American Balance Slide Valve Co.,
Jersey Shore, Pa.
Valves.
Frontier Iron Works, Detroit, Mich.
Viaduct Brass Works, Cleveland, O.
John Featherstone's Sons, Chicago, Ill.
The Fred W. Wolf Co., Chicago, Ill.
Boston Beiting Co., Boston, Mass.
Kendrick Valve & Washer Co., Syracuse.
N. Y.
Lehigh Valley Brass Wks., S. Bethleh'm, Pa.
The Kelly & Jones Co., Greensburg, Pa.
Crosby St. Gage & Valve Co., Boston, Mass.
The Lunkenheimer Co., Boston, Mass.
Chapman Valve Mfg. Co., Indian Orchard,
Mass.
N. I. Car Spring & Rub. Co., Jersey City, N.J.

Mason Regulator Co., Duston, Mason Regulator Co., Indian Orcharu, Mass.
N.J. Car Spring & Rub. Co., Jersey City, N.J. R. D. Wood & Co., Philadelphia, Pa. Jenkins Bros., New York, N. Y. Ludlow Valve Mfg. Co., Troy, N. Y. Broomell, Schmidt & Co., Ltd., York, Pa. Veneer Machines.

Veneer Machines.

Jenkins Broa, New York, N. Y.
Ludiow Valve Mfg. Co., Troy, N. Y.
Ludiow Valve Mfg. Co., Troy, N. Y.
Broomell, Schmidt & Co., Ltd., York, Pa.
Veneer Machines.
The E. D. Albro Co., Cincinnati, O.
Wage Calculators.
Lightning Wage Calculator Co., New York
Wagon Builders' Mchy. & Supplies.
Cordesman Machine Co., Cincinnati, O.
H. L. Beach, Montrose, Pa.
J. A. Fay & Co., The Egan Co., Cincinnati, O.
H. L. Beach, Montrose, Pa.
J. A. Fay & Co., The Egan Co., Cincinnati, O.
Wall Tles. (Steel.)
The Cleveland Wire Spring Co., Cleveland, O.
Washers. (Ore and Phosphate.)
McLanahan & Stone, Hollidaysburg, Pa.
Valk & Murdoch Iron Wks., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
The Balley-Lebby Co., Charleston, S. C.
Water Columns.
Reliance Gauge Co., Cleveland, O.
Water Power. (Electric.)
Water Wheels and Turbines.
American impulse Wheel Co., New York, N. Y.
De Lonch Mill Mfg. Co., Atlants, Ga.
Norrish, Burnham & Co., Inc., Glen Bock, Pa.
James Leffel & Co., Springfield, O.
Lane Mfg. Co., Montpelier, Vt.
Wolf Co., Chambersburg, Pa.
Stilwell-Bierce & Smith-Valie Co., Dayton, O.
S. Morgan Smith Co., York, Pa.

Water Works and Sewerage.
H. Mueller Mfg. Co., Deatur, Ill.
Henry E. Knox, Jr., Charlotte, N. C.
R. D. Wood & Co., Philadelphia, Pa.
Well Tools and Supplies. (Artesian.)
John Muirhead & Son, Pittston, Pa.
Perry Andrews, Atlanta, Ga.
Willems Bros., Ithaca, N. Y.
Wheelbarrows and Trucks.
J. W. Paxson Co., Philadelphia, Pa.
Jackson Manufacturing Co., Harrisburg, Pa.
G. L. Stuebner Iron Wks., L. Island City, N. Y.
The Jeffrey Mfg. Co., Columbus, O.
Birmingham Boiler Wks., Birmingham, Ala.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Birmingham Boiler Wks., Birmingham, Ala.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
Birmingham Boiler Wks., Birmingham, Ala.
Kilbourne & Jacobs Mfg. Co., Columbus, O.
White Lead.
Samuel H. French & Co., Philadelphia, Pa.

A. & F. Brown, New York, N. Y.
Crosby St. Gage & Valve Co., Boston, Mass.
The Lunkenheimer Co., Cincinnatt, O.
White Lead.
Samuel H. French & Co., Philadelphia, Pa.
Windiasses and Capstans.
American Ship Wind. Co., Providence, R. I.
Wire Cutters.
Robbins & Myers Co., Springfield, O.
Wire, Wire Rope, Barbed Wire, etc.
Hazard Manufacturing Co., Wilkes Barre, Pa.
Consolidated Steel & Wire Co., Pittsburg, Pa.
The Jeffrey Mig. Co., Columbus, O.
Contractors' Plant Mig. Co., Buffato, N. Y.
Chas. H. Besly & Co., Cheago, III.
Trenton Iron Co., Trenton, N. J.
Ludlow-Saylor Wire Co., St. Louls, Mo.
Wire Hope Thimbles.
Jackson Manufacturing Co., Harrisburg, Pa.
Wire Goods.
C. Hanika & Sons, Muncie, Ind.
Dow Wire Works Co., Louisville, Ky.
Chas. H. Besly & Co., Chicago, III.
Dofur & Co., Bittimore, Md.
Ludlow-Saylor Wire Co., St. Louls, Mo.
Wood-Spilitting Machines.
Trevor Mig. Co., Lockport, N. Y.
Woodworking Machines.
Trevor Mig. Co., Lockport, N. Y.
Woodworking Machines.
Trevor Mig. Co., Constanting, N. J.
Chattanooga Mchy. Co., Chatta'n'ga, Tenn.
Cordesman Machine Co., Cincinnati, O.
Baxter D. Whitney, Winchendon Mass.
Cordesman, Meyer & Co., Cincinnati, O.
Baxter D. Whitney, Winchendon Mass.
Cordesman, Meyer & Co., Cincinnati, O.
H. L. Beach, Montrose, Pa.
Smith-Courtney Co., Buffalo, N. Y.
Lane Mig. Co., Montpeller, Vt.
E. & B. Holmes Mchy. Co., Buffalo, N. Y.
Ober Lathe Co., Chagrin Falls, O.
J. A. Fsy & Co., Lockport, N. Y.
S. C. Forsalth Mch. Co., Manchester, N. H.

"KEYSTONE" OPEN LINK.

STRENGTH, DURABILITY and SIMPLICIT

T IN S

SPECIAL FORCINGS TO ORDER. CHTS

KEYSTONE DROP FORGE CO.



The LINDE Ice and Refrigerating Machine. Manufactured by THE FRED. W. WOLF CO. Owners of U. S. Patent



225-TON LINDE REFRIGERATING MACHINE.

NEWBURGH ICE MACHINE & ENGINE CO.



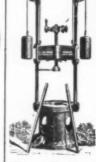
Office and Works, NEWBURGH, N. Y. New York Office, 44 Taylor Building, 39-41 Cortlandt Street.

Whitehill Corliss Engines, SIMPLE, COMPOUND AND C

AND REFEIGREATING MACRIMERY.
IRON AND BRASS GASTINGS.

COO Street, WATERTOWN, N. V.
AL TOOLS. DROP HAMMERS.

SES for Punching. Stamping. Drawing. PRESS STILES PRESSES 1 S



Adjustable **Screw Press**

We make three sizes of Screw Press, ranging from 15 to 45 tons' capacity. A tool that earns its own way into every well equipped achine shop

SEND FOR CATALOGUE.



Has no pumps or valves. No piping required to supply water. Always ready for use. Simplest in construction, most efficient in operation.



W. F. & JNO. BARNES CO. ROCKFORD, ILL.

The Incomparable Brands: Flint Paper. Garnet Paper. Emery Paper. Emery Cloth.

TIME PROVES ALL THINGS . A quarter of a century's use has proved the superior quality of our SAND

YOU RUN NO RISK.

ш 20

I



Baeder, Adamson & Co. 730 Market Street, Philadelphia. 67 Beekman Street, New York. 143 Milk Street, Boston. 182 Lake Street, Chicago.



COLUMBUS MACHINE CO., Columbus, O.

SINGLE and DOUBLE ACTING, CONSOLIDATED. VERTICAL and HORIZUNTAL

JOHN FEATHERSTONE'S SONS, 354-8 N. Halsted St., -

SOUTHERN OFFICE: 406 Chalifoux Building, Birmingham, Ala.



WALKER & ALLAN MACHINE WORKS,

Power and Lever Punches.

WALKER & ALLAN MACHINE WORKS,

THE CHAPMAN

Write for Prices. Bex 74, Lansing, Mich.

Extra Heavy



The GENUINE CHAPMAN cases will bear our name in full, cast upon the shells, and also ou monogram. MADE IN SEVERAL STYLES and ALL SIZES BODIES LARGE SIZES RIBBED I, either rolled in our trade-mark our in all d in or rk and THE PARTY 111

The Stuffing Box may be Repacked without Closing the Valve. INVESTIGATION SOLICITED

CHAPMAN VALVE MFG. CO.

INDIAN ORCHARD (Springfield) MASS... U. S. A.
Boston Office: New York Offi.e:
72 Kilsy Street. 28 Platt Street.
Chicago Office: 14 N. Canal Street.
St. Louis Office.
L. M. Rumsey Mpg. Co., 810 N. Second Street.

FREIGHT ELEVATORS

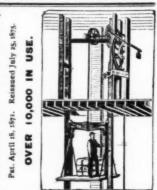
PARKHURST BROS. & CO., - Indianapolis, Ind.

CINCINNATI ELEVATOR WORKS. Manufacturers of

Hand, Steam, Hydraulic and Electric

ELEVATORS

216 West Second St., CINCINNATI OHIO



JAMES BATES' SONS,

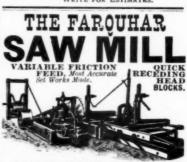
COAL AND ORE BUCKETS



G. L. Stuebner Iron Works CATALOGUE? Long Island City, N.Y.

FRANKLIN S. MILES, 207 Quarry Street, PHILADELPHIA, PA





PORTABLE, STATIONARY & TRACTION Engines and Bollers a specialty. Send for catalogue to A. B. FARQUHAR CO., Ltd., VORK, PA.



still while backing; great saving in power and wear. Write for circulars and prices; furnished free upon application. Also Spring Tooth Harrows, Hay Rukes, Cultivators, Corn Plantages, Shellars, 2007.

HENCH & DROMGOLD, Manfrs., YORK, PA.

STEAM

TRAPS



Write for Prospectus of SECRETS OF CANNING.

BALTIMORE, MD.

CANNING MACHINERY.

ESPECIALLY ADAPTED FOR THE SOUTH.
Full instructions furnished for putting up and operating your own plant, including processing of all the various canned goods Prices from \$100 upwards; also Cans, Labels, Cases and Solder.

AUTOMATIC and ENGINES. AMES IRON WORKS, Oswego, N. Y. See large ad. in last and next issues

FNGINES BOILERS. Tanks, Stacks, Stand Pipes and Sheet-Iron Work; Sh-fting, Pulleys, Gearing, Boxes, Haneers, etc. Mill Castings.

Cast every d+; y work 180 hands.

LOMBARD IRON WORKS & SUPPLY CO.



Machine Works,

137-139 W. 2nd St.

Engines, Boilers, From 4 to 18 H. P.

The Life of is Long or Short, according to the care bestowed upon its vital parts.



THE DETROIT SIGHT FEED LUBRICATORS

protect these vital parts by keeping them perfectly lubricated, thus preventing wear from friction. Nearly 400,000 Detroit Lubricators are in use. bricators are in use.

Our Catalogue, show-ing our different styles for every kind of engine, will be sent on application.

DETROIT LUBRICATOR CO., Detroit, Mich.

Alabama Bridge & Boiler Co.

ESTIMATES FURNISHED ON

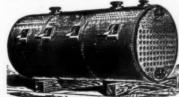
lges and Structural Works, Tanks, tand Pipes, Blast Furnaces, and all kinds of Sheet Iron Work.

Birmingham Boiler Works

new and second-hand Bollers, cheap.

WM. CRELLIN, Proprietor,
Ave. Λ, Powel ave. and 24th st., Birminghan

High-Grade BOILERS



McCLAVE'S Improved ing GRATE and ARGAND the quall STEAM sizes of draught

Stow Flexible Shaft Co. Frederic Schoff, Prop.



ABC STEAM TRAPS RETURN



B. Non Return Trap has No Stuffing Boxes to stick or leak.

We manufacture Steam Traps for all duties High and Low Pressures, returning the Con-densation back into Boiler or discharging to Hot Well. Tank or Atmosphere. Send for Catalogues A, B and C.

ALBANY STEAM TRAP CO., Albany, N. Y.

THE COBURN PATENT TROLLEY TRACK



The Adjustment is in the track and not in the hanger as are others.

Send for Book.

THE COBURN PATENT TROLLEY TRACK Barn Door Hangers

Impossible for door to jump the track. Very simple and cheap to No Send for Book.

The Coburn Patent Trolley Track

Fire Door Hangers Recommended and adopted by fire underwriters all over the United States. **Send for Book.

The Coburn Patent Trolley Track Overhead - Tramway. Furnished complete with straight and curved track, switches, frog brackets, single and double car-

The Coburn Patent Trolley Track

Send for Book

Patent Rolling Ladder Systems

Over 10,000 in use in the United States. Roll suspended from cell-ing or facing the shelves.

War Send for Book.

The Coburn Trolley Track Mfg. Co. HOLYOKE, MASS.

F. H. DAVIDSON & CO., Baltimore. Md., Southern Sales Agents. All orders promptly shipped from the Baltimore office on same terms as from factory Holvoke. Mass



The Philadelphia Bourse,

THE GREAT GENERAL EXCHANGE OF PHILADELPHIA,

And Permanent Exhibition of

Machinery, Mechanical Appliances,

and Manufactured Goods.

Headquarters of Merchants, Manufacturers and Exporters and Importers of Raw Products.

THE EXHIBITION DEPARTMENT

Presents unusual attractions to the buyer and seller, as here can be seen and contrasted a great variety of manufactures.

Builders of Machinery, Mechanical Appliances and Novelties, and manufacturers of all kinds of goods will find the BOURSE EXHIBITION DEPARTMENT the most useful medium for presenting their productions to the public.

FREE TO THE PUBLIC.

Open Daily From 9 A. M. Until 5 P. M.

For information apply or address

S. LEWIS JONES,

PHILADELPHIA BOURSE.



96 Liberty Street, NEW YORK.



Contractors' Plant Mfg. Co. Ltd.

STEAM, HORSE and HAND POWER

DERBICK IRON and CONTRACTORS' SUPPLIES. Manufacturers of Wire Rope, Mention this journal.

129 Erie Street, Buffalo, N. Y.



OILLESS BEARINGS. Metalined Loose Pulley Bushes require no oil or other lubricant, either at the start or occasionally afterwards. Will run per-fectly dry for years. North American Hetaline Co. Wast Ave. cor. W. 2d St. Long Island City, N. Y.



100-H00 BABBITT METAL. ST. LOUIS, MO.
See large advertisement last week and next week.

THE JOHN F. BYERS MACH.CO. MFGRS. HOISTING ENGINES,

GEAR ED LOCOMOTIVES,

TRAVELING DERRICK CARS,

BUILDERS ELEVATORS,

HAND POWERS, DERRICK IRONS,

BLOCKS, SHEAVES, & CONTRACTORS SUPPLIES

WORSTED APRONS

RUB APRONS.

LEATHER PICKERS.

T. E. PECHIN,

atown Ave.. PHILADELPHIA, PA

Tool Grinder.



Corundum Wheel, 14 inch. in diameter and 2 inches thick. Has no Pumps to get

out of order. Manufactured by

C. N. CADY,

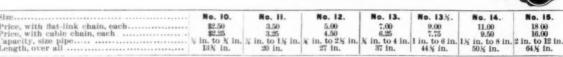
CANASTOTA, N. Y.

LEATHER BELTING VULCAN Patent Drop-forged Steel Chain Pipe Wrench.

SEVEN SIZES.
FOR EITHER CABLE OR FLAT-LINK CHAIN.



WITH FLAT-LINK CHAIN



Note Reduced List Prices. Ask for Discounts.

J. H. WILLIAMS & CO., 9 to 31 RICHARDS and 8 to 26 BOWNE STS.

BROOKLYN, NEW YORK.

THE COLUMBIA" MODERN LAUNDRY MACHINERY. Latest. "Up to Date." Prices "Right." Wilson Laundry Machinery Company. Send for Catalog R. Columbia, Pa.

M. B. FITHIAN, Secretary

S. H. SINCLAIR CO.

LAUNDRY MACHINERY



"THE SINCLAIR" IRONER

8-10 S. Canal St. CHICAGO. Write for prices an

NONE GREATER GILMORE GRATER THAN THE

The only one that WILL NOT CLOG.

lendid Seller. Pays a Handsome Profit, Prices on application

WEST MFG. CO.

Globe Composition

J. M. HAYDEN & CO.

USE SCHIEREN'S **VIRGINIA # TENNESSEE** TANNED OAK BELTING

CHAS. A. SCHIEREN & CO. Philadelphia.

EUKEKA FIRE HOSE CO

TANNERIES: BRISTOL, TENN

Barclay Street, NEW YORK.

Original Manufacturers of

RUBBER-LINED COTTON

Eureka Mill Hose, Eureka Underwriters' Linen, Eureka Garden Hose, Eureka U. S. Brand Linen Hose, Plain and Rubber Linen, Trojan Mill Hose, Gem Garden Hose, Eureka Cotton Machine Belting.

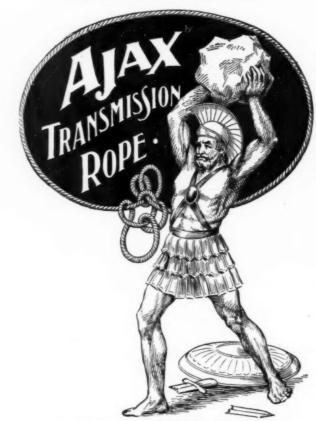
SOLE AGENTS:

THOS. K. CAREY & BROS. CO.

We can furnish our

AJAX TRANSMISSION ROPE

In all lengths and sizes desired.



H. CHANNON COMPANY-

24-26 Market Street,

CHICAGO



"CHESAPEAKE" Stitched Canvas

BELTING

Fully Guaranteed in Every Respect.

The Chesapeake Belting Co. BALTIMORE, MD.

HIGH-GRADE RUBBER GOODS.



Belting, Packing, Tubing, Springs, Valves, Gaskets, Mats and Matting, Rubber-Lined Linen and Cotton Hose. SEND FOR SAMPLES, ETC.

N. J. CAR SPRING & RUBBER CO., Jersey City, N. J.

Do You Use Packings?

We are AGENTS for the PERRY ORIGINAL RED SHEET and PISTON PACKINGS.

Write for Samples and Prices.

J. E. RHOADS & Sons

Wilmington, Del.





CHICAGO BELTING COMPANY



Main Office and Factory, 67-71 South Canal Street, CHICAGO.
316-318 St. Charles Street, NEW ORLEANS. 203 Main Street, MEMPNIS.
720 N. Second Street, ST. LOUIS, MO.

Alexander

Oak Leather

410 and 412 N. Third Street Belting Philadelphia

Jewell Belting Co.

Hartford, Conn.



TANNERS OF

OAK BELTING

MANUFACTURERS

LEATHER.

SHORT LAP OAK BELTING.

With Tanneries at

IELLICO, TENN. ROME, GA.

Main Office, Hartford, Conn.

BRANCHES: 175-177 Lake Street, CHICAGO. 240-250 W. Somerset Street, PHILADELPHIA.

The BRADFORD BELTING CO.

203 Walnut Street, CINCINNATI, OHIO.



"Monarch" and "Bradford Dynamo" Rivetless . . Leather Belting.-

Rubber Hose, Rubber Belting, Packing, **Electrical Supplies and Wood** Split Pulleys.

MECHANICAL RUBBER GOODS



BELTING. HOSE, PACKING,

FIRE HOSE. GASKETS, VALVES. RUBBER COVERED ROLLERS.

SATISFACTORY IN QUALITY AND PRICE.

Manufactured by

BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Mfg. Agent and Gen. Mgr.

256-258-260 Devonshire St., Boston. 100 and 102 Reade St., New York

BELTS BELTING

Main Driving and Work of a Heavy Nature SOLE MANUFACTURERS.

MAIN BELTING CO.

-1235 Carpenter Street, PHILADELPHIA

55 & 57 Market Street, CHICAGO. 120 Pearl Street, BOSTON.

d for Price Lists and Sample

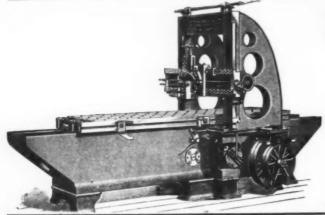
PURE OAK BARK TANNED

ESTABLISHED 1842.

I. B. WILLIAMS & SONS, Main Office and Factory, DOVER, N. H.

FLAT, SOLID ROUND and TWIST

Cleveland Branch, 102 Superior Street. Chicago Branch, 205 Lake Street.



Engine Lathes, Planers, Shapers, Boring Mills, Brass Working Tools, Bolt Cutters, Milling Machines, Upright and Radial Drills.

We Can Equip an ENTIRE MACHINE SHOP with Tools of OUR OWN MAKE. SEND FOR OUR COMPLETE 1898 CATALOGUE.

THE DAVIS & EGAN MACHINE TOOL CO.

Works: CINCINNATI, OHIO, U. S. A.

NEW YORK:

PHILADELPHIA: 19 N. Seventh Street.

ST. LOUIS: 720 N. Second Street.

FIFIELD TOOL CO.

ENGINE LATHES 17" to 72" SWING.

Photo-cuts, description and prices on application

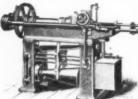
Two acres devoted entirely to manufacturing Engine Lather

MORTON, REED & CO., Agents, -

BALTIMORE, MD.

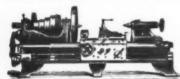
MORSE TWIST DRILL AND MACHINE CO., NEW BEDFORD, MASS. THREE GROOVE CHUCKING REAMERS.

CUTTING OFF LATHES



Two Spindle Center Drilling and Reaming Machines. Engine Lathes, Planers, Shapers, Milling Machines. Milling Cutters, Reamers, Taps, Dies, Lathe Chucks. fodel Making, Spur Gear Cutting, Bevel Gear Milling, a fit and Spindle Drilling given special attention. ASK FOR CATALOGUE "S"

The Pratt & Whitney Co. No. 2 Cutting Off Lathe. HARTFORD, CONN., U. S. A.

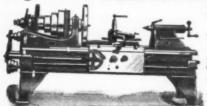


Draper Machine Tool Co.

Worcester, Mass., U. S. A.

WRITE US FOR CUTS AND PRICES.

High-Class **ENGINE** LATHES.



PATENTED
With NEW and VALUABLE FEATURES.

Made only by
THE BRADFORD MILL CO.

CINCINNATI, OHIO, U. S. A.

Schuchardt & Schutte, Berlin, Germany.
Charles Churchill & Co., Ltd., London and
Birmingham, England.
The Cooke Machinery Co., No. 165 Washington street, New York, N. Y.
The J. A. Fay & Eagan Co., Chicago, Ills.
The E. A. Kinsey Co., Cincinnati, O.

MACHINE TOOLS.

F. E. REED COMPANY,

WORCESTER, MASS.

THOS. K. CAREY & BROS. CO., Agents, BALTIMORE, MD.

16 in. to 36 in. Swing.

THE WRIGHT CO.

LOWELL, MASS.

The Freck Tube Cutter

With Sawing and Slotting Attachment.

A very useful tool for bicycle and metal working shops. THE WM. FRECK CO., 120 S. Clinton Street, CHICAGO, ILL.

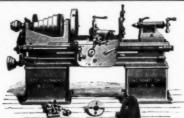
THIS 18" SWING

ENGINE LATHE

DIETZ, SCHUMACHER & BOYE,

CINCINNATI, OHIO, U. S. A.

It will pay you to write us for details.



STERLING



EMERY WHEEL MFG. CO. TIFFIN, OHIO.

CORRESPONDENCE SOLICITED.

137 Plymouth Street, BROOKLYN, N. Y.

Western Office: 96 W. Washington St., CHICAGO, ILL. SPECIAL CATALOGUES OF



BICYCLE & ELECTRICAL TOOLS

No. 64 Triple-Action Press (Patented). This press performs, at one stroke, the three perations of cutting, drawing and stamping, rembossing, and is, therefore, particularly aluable for a 1 work that is lettered, beaded rembossed, such as sardine boxes, covers and ottoms of mustard and spice cans, blacking oxes, with lettered covers or countersunk botoms, covers for lard pails, etc. The press, as hown in illustration is advantaged.

DROP HAMMERS, SHEARS and all other

SHEET METAL TOOLS.

"Bliss" Triple-Action Press No. 64, (Patented). OWNERS OF THE STILES & PARKER PRESS CO.

D. SAUNDERS' SONS,



Pipe Cutting and

Threading Machine. BEWARE OF IMIATIONS. e genuine without our Trade Mark and name. Also

Patent Wheel Pipe Cutter

STEAM AND GAS FITTERS'
HAND TOOLS,

Pipe Cutting and Threading Machine OR PIPE MILL USE A SPECIALTY.

Send for Catalogue B. 31 Atherton Street, YONKERS, N Y.

LOCOMOTIVE WORKS.



No. 1278 -Ruilt for the Baltimore & Ohio Railroad.

SINGLE EXPANSION and COMPOUND LOCOMOTIVES

Adapted to every variety of service and built accurately to standard gauges and templates. Locomotives for Logging Rallroads and Sugar Estates, Electrical Locomotives, Steam Tramway Motors, Mine Locomotives, Furnace Locomotives.

BURNHAM, WILLIAMS & CO., Philadelphia, Pa.





Adamantine SHOES and DIES

AND CHROME CAST STEEL,

Cams, Tappets, Bosses, Roll Shells and Crusher Plates. Also rolled parts for Huntington and other mills

These casting are extensively used in all the Mining States and Territories of North and South America. Guaranteed to prove better and cheaper than any others. Orders solicited subject to above conditions. When ordering send sketch with exact dimensions. Send for illustrated circular

CHROME STEEL WORKS, Kent Ave., Keap and Hooper Sts., BROOKLYN, N. Y.



FROM 1 TO 40,000 POUNDS WEIGHT

Of Open Hearth, or Chester Steel. True to Pattern, Sound, Solid.

Gearing of all kinds, Crank Shafts, Knuckles for Car Couplers. Cross Heads, Rockers, Piston Heads, etc., for Locomotive STEEL CASTINGS OF EVERY DESCRIPTION.

CHESTER STEEL CASTINGS CO.



Best Anti-Friction Metal for all Machinery bearings. For high speed and heavy crushing weight it has no equal. It is used on bearings where no other known metal will stand.

THEO. HIERTZ & SON, Sole Manufacturers,
30th Street and Park Ave.,
Manufacturers all grades Babbit Metals, Solder, Bar Tin, Bar Lead, Lead Car Seals, etc.

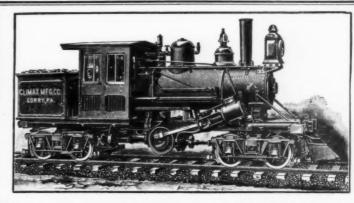
Graphite and Bronze Bearings



ecially for Friction Clutch and Loose Pulleys, Baggage Truck Axle Boxes, Mine Car Axle Boxes, Tackle Block Bushings, Wind Mill Bearings, Wheel Governor Bearings for Engines, Street Failway Motor Bearings Street Railway Motor Bearings, Trolley Wheel Bushings, etc., etc.

The GRAPHITE LUBRICATING CO., Bound Brook, N. J.





Tramway Locomotives and Cars For Steel, Iron,

Weight of Locomotives from eight to thirty-five tons. Every wheel a driver.

Adapted for steep grades, sharp curves and uneven track. CATALOGUES FREE.

CLIMAX MFG. CO., BUILDERS, CORRY, PA.



Tanks,

Stationary

Boilers Furnished at

PITTSBURGH LOCOMOTIVE WORKS, PITTSBURGH,

SPECIAL OFFER.

On bona fide request of any railroad contractor, or mine, mill, furnace, plantation, logging or other railway owner or operator, or other prospective buyer, we will mail free our new 216 page pamphlet describing 304 designs Light Locomotives, steam, electric and compressed air. To accommodate persons not requiring locom tives, a copy will be sent

H. K. PORTER & CO.
6th Avenue, PITTSBURGH, PA.
comotives narrow and wide gauge, always on

FOR SAW GUMMING NONE BETTER.



PURE SAPPHIRE CORUNDUM AND EMERY WHEELS.

SCRANTON CORUNDUM AND EMERY WHEEL WORKS.

A WHEEL THAT CUTS.

EMERY

BEATS THE WORLD.

Vitrified Emery Wheel Co., WESTFIELD, MASS.

Walker Universal Tool and Cutter Grinder

NORTON EMERY WHEEL CO.

WORCESTER, MASS.

THOS. K. CAREY & BROS. CO., Southers Agents, EALTIMORE, MD.

YORK MANUFACTURING CO. YORK, PA.

.... MANUFACTURERS OF

Horizontal and Vertical Steam Engines.

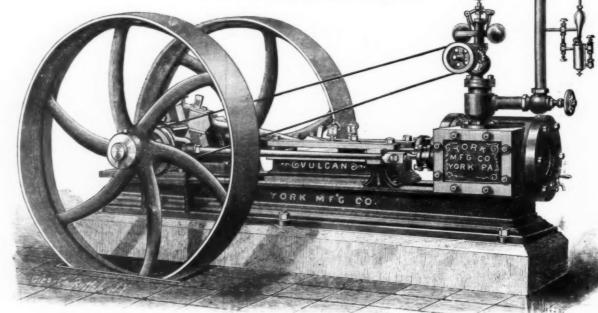
Ice and Refrigerating Machinery.

Steel Plate
Chimneys and
Stand Pipes
for . . .
Waterworks.

Philadelphia Office: 476 Bourse Building.

New York Office:
Bowling Green Building.

Boilers, Stacks, Tanks and General Wrought Iron Work.



PRESIDENT, P. H. GLATFELTER.

SECRETARY AND TREASURER, W. L. GLATFELTER.

GENERAL MANAGER, THOS. SHIPLEY.

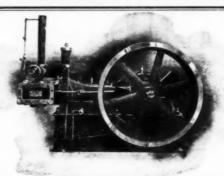


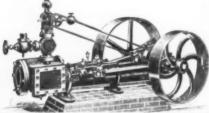
SOME RECENT SALES IN SOUTHERN STATES.

City of Crowley, La.
City of Scranton, Miss.
Bristol Electric Light & Power Co., Bristol, Tenn.
Brush Electric Light & Power Co., Galveston, Texas.
City of Athens, Alabama.
Seaboard Air Line, Portsmouth, Va.
Brownsville Electric Co. Brownsville, Tenn.
Greenup Light & Power Co., Greenup, Ky.
Chesapeake & Ohio Railroad, Newport News, Va.
City of Okolona, Miss.
So. Carolina Institute for the Blind, Glendale, S. C.

The Ball Engine Co.

ERIE, PA.





Counter-Balanced Center Crank Engines,

The HIGH POINT MACHINE WORKS,

ALSO MANUFACTURERS OF Variable Feed Saw Mills and Cotton Mill Castings.

FORKS,

IMPROVED HOISTING ENGINES,

FOR PILE DRIVING, RAILROADS, BRIDGE BUILDING, MINES, QUARRIES, COAL HOISTING and BUILDING PURPOSES.

OVER 350 SIZES AND STYLES.

Log Hauling by Steam and Suspension Cableways

LAMBERT HOISTING ENGINE CO.

Successors to W. A. CROOK & BROS. Co.
17-123 Pointer Street, NEWARK, N. J.
Salesrooms—143 Liberty St., New York.



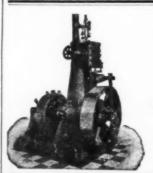
SALEM, OHIO.

J. T. CASTLE, Sales Agent, Manufacturers' Record Building, Baltimore, Md.



Horizontal and Vertical Engines, Simple, Compound and Multiple Cylinder, FOR ALL CLASSES OF WORK.

CATALOGUES UPON APPLICATION,



"Shepherd" Engines

HIGHEST GRADE

For Electric Light, Railway and Factory use

Also Marine and Yacht Engines
and Centrifugal Pumping Machinery.

DAVIS-FARRAR CO., Erie, Pa.

W. D. FORBES & CO., Engineers,
See illustrated ad. first issue each month.
HOBOKEN, N.

IDEAL and

SLIDE VALVE ENGINES

STEAM SUPPLIES and BOILERS.

WALLACE STEBBINS, 111 East German Street,

NGINES AND BOILERS From 110.8 HORIZONTAL AND VERTICAL. PORTABLE AND STATIONARY.

Plain Tubular Type, Locomotive Fire-box Pattern, Vertical and Two-flue, Steel or Iron, as desired. SEND for Boilers of

Engines Plain Slide Valve

Automatic Cut-Off.

W. E. DREW, AGENT.

SEND for catalogue, giving exact requirements, that you may obtain our estimate. Freight paid your station if desired.

S. C. FORSAITH MACHINE CO., MACHINETS AND GENERAL MANCHESTER,

UPRIGHT and HORIZONTAL

AFFORDING BEST POWER FOR LEAST MONEY Send for Pamphlet and state your wants to

JAMES LEFFEL & CO., - SPRINGFIELD, OIHO.

ECLIPSE CORLISS ENGINES.

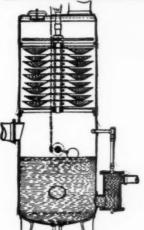
FRICK COMPANY, ENGINEERS. BUILDERS, WAYNESBORO, PA.

NEW YORK OFFICE, Taylor Building, 39-41 CORTLANDT STREET.

40 to 1000 Horse-Power Made—Condensing, Non-Condensing and Compound.

Ice-Making and Refrigerating Machinery. Send for Ice-Machine Circular. SPECIAL HIGH-SPEED AUTOMATIC ENGINES, STEAM BOILERS, rour General Catalogue. TRACTION and PORTABLE ENGINES, SAW MILLS





PITTSBURGH FEED WATER HEATERS

PURIFIERS.

Simplest and Most Efficient on the Market.

The largest month's sales on record to one concern was ade by us in December to the Carnegie Steel Co., Lin, nounting to 22,500 Horse-Power.

Open and Closed Types. Also Heaters and Receivers.

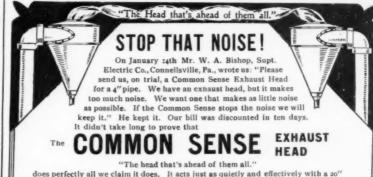
Send for illustrated catalogue.

PITTSBURGH FEED WATER HEATER & ENGINEERING CO. JAMES BONAR & CO., General Sales Agents, 1
PITTSBURGH, PA.

AGENTS: { NEW ORLEANS-Gibbens & Stream. CINCINNATI-Wooley & Greatorex.

VALK & MURDOCH IRON WORKS, Charleston, S. C.





does perfectly all we claim it does. It acts just as quietly and effectively with a 20" exhaust as with a 4" exhaust. It has no complicated internal mechanism. It is very well made, and will last a lifetime. We send it on 30 days' free trial. Send for particulars and prices.

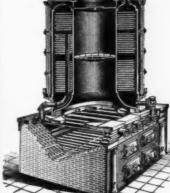
BINGHAM & CO., Mfrs., 242-46 Cherry St., Phila., Pa.

Bingham & Co. 17

HARTLEY'S BOILER WORKS. HIGH GRADE BOILERS, Stand Pipes Tanks, Smoke Stacks, &c. A full line of Boilers, Fronts, Grate Bars, and other

Tudor Boiler Manufacturing Co. Steam Boiler and Tank

Office, 246 E. Pearl St. (opp. Pittsbg, Cin. & St. L. R.) Cincinnati, O. SECOND-HAND BOILERS ALWAYS ON HAND.



Berry Safety Boiler.

conomizes space, fuel, maintenance ad first cost to a greater degree than my other boiler.

Combines Simplicity and Durability.

Horse Power units of 250, 200, 150, 100 and 50. MANUFACUREL BY

ROBT. WETHERILL & CO. CHESTER, PA.

Corliss Engine Builders.

"THE BERRYMAN"

Feed Water Heater and Purifier



PROVIDED WITH U-SHAPED TUBES.

It Never Leaks.

"THE HIGHEST GRADE ONLY."

Our Catalogue contains the representative names of a large number of contented buyers of

BERRYMAN HEATERS

built by us in last twenty years.

For Prices, Catalogue and Particulars apply

JAMES BERRYMAN.

125 N. 4th St., PHILADELPHIA, PA.

I. B. DAVIS & SONS, Makers, HARTFORD, CONN.

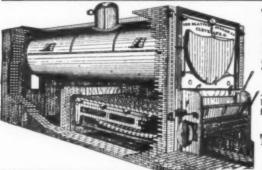
Priestman Oil Engine Burns OIL, Not GASOLINE.

Safety, High Efficiency, Small Fuel Consumption, No Engineer, No Steam Boiler,



Can be used for any purpose.

PRIESTMAN & CO, Inc.
Bourse Building,
PHILADELPHIA, PA.



The Playford Mechanical Stoker

GUARANTEED TO

Abolish smoke, to increase boiler capacity and to save fuel.

For information, address

The Playford Stoker Co.

CLEVELAND, O.



Iron Blow-Off Valve,

SCREWED AND FLANGED.

Suitable for Extreme High Steam Pressure up to 250 pounds.

This Valve is constructed to meet the requirements of the progress made in feeding and operating steam boilers. It can be opened and closed as often as may be required without danger of choking or clogging, and by reason of its construction will, under all conditions, seat itself true and tightly.

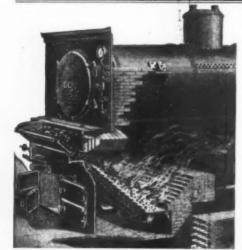
THE KELLY & JONES CO.

GREENSBURG, PA.

Send for Circular.

WILKINSON STOKER,

The Great Money and Labor Saver. WILKINSON MCG. CO., 678 Bourse Bld'q. Phila. or Bridgeport, P.



THE RONEY MECHANICAL STOKER.

Ten years of constant use under the most varied and trying conditions has demonstrated that **The Roney** Mechanical Stoker, by supplying conditions most favorable to combustion, renders it practicable

To Burn with equal facility both anthracite and bituminous coal;

To Burn bituminous and semi-bituminous coals without smoke;

To Burn not only the best, but also the cheapest fuels, and

To do this without throwing away the resulting heat by frequent opening of fire doors.

Consequently,

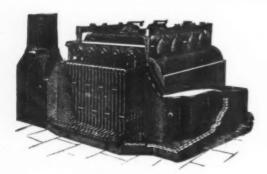
It does this more efficiently and at less expense than is possible with hand firing, and Gives more uniform results and Does Better Work at Less Cost.

THE WESTINGHOUSE MACHINE COMPANY, Pittsburg, Pa., U. S. A.

SELLING OFFICES:

WESTINGHOUSE, CHURCH, KERR & CO., 26 Cortlandt Street, New York. 53 State Street, Boston. 171 LaSalle Street, Chicago. Union Trust Building, Detroit, Mich. Westinghouse Building, Pittaburg, Pa.

M. R. MUCKLE, JR., & CO., 210 Drexel Building, Philadelphia, Pa. D. A. TOMPKINS CO., 38 College Street, Charlotte, N. C. PARKE & LACY CO., 21 and 23 Fremont Street, San Francisco, Cal. And all foreign countries.



SAVES 10% TO 20%

IN FUEL.

SOLE MAKERS IN THE U. S. A.

SIXTEEN PRIZE MEDALS. CREEN'S

FOR STE

THE FUEL ECONOMIZER CO.
MAIN OFFICE & WORKS: MATTEAWAN, N. Y.

BOSTON: 321 EXCHANGE BLDG.

CHICAGO: 1840 MARQUETTE BLDG. NEW YORK: 74 CORTLANDT STREET





HAVE YOU HAD BURNED BOILERS OF BOILER EXPLOSIONS?

you realize that they are expensive as well as undesirable.

THE RELIANCE COLUMNS MINIMIZE THE DANGER

These appliances do NOT keep the feed pump running, but they do keep the fireman at his post and make him careful.

very Column Warranted. Correspondence Solicited THE RELIANCE GAUGE CO.

96 to 106 East Prospect St..

CLEVELAND, OHIO.

For Reducing and Controlling High Pressure of Steam, Water or Air



in Public Buildings and Manufacturing Plants. Also "Burton" Pump Governor. These Valves are supplied with either Spring, or lever and weight. Pat. Feb.

CATALOGUE MAILED ON APPLICATION.

VIADUCT BRASS WORKS, 32 Centre Street, CLEVELAND, OHIO.

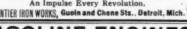
ROSS' REVERSIBLE BALL GAUGE COCK.





GASOLINE and GAS ENGINES

Vertical, I to IO H. P. Tandem, IO to IOO H. P. An Impulse Every Revolution.
FRONTIER IRON WORKS, Guoin and Chene Sts.. Detroit, Mich.



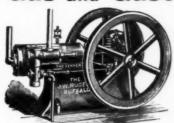


LAMBERT GAS & GASOLINE ENGINE CO., 710 W. Third Street, Anderson, Ind.



OUR NEW 1897

Gas and Gasoline ENGINES



MOST RELIABLE.

Highest Efficiency for Electric Lighting, Giving a Regular Steady Speed.

Simplest and Best for General Power,

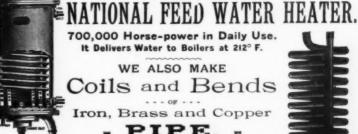
Write for our new Catalogue and state kind of work you require engine for, amount of power, and whether you will use gas or gasoline, and we will make you proposition that will bring the order.

Mention the Manufacturers' Record.

THE J. W. RUGER MFG. CO.

Efficiency, Reliability, Cheapness

Are some of the Features in connection with our



Coils and Bends

- PIPE. -

SEND FOR CATALOGUE.

THE NATIONAL PIPE BENDING CO., 97 Lloyd Street, NEW HAVEN, CONN.

GAS AND GASOLINE ENGINES 2 to 250

EXCEL ALL OTHERS IN DESIRABLE FEATURES. lapted for ALL Power Purposes—Electric Lighting, M g, Mining, Water Works, Elevators, Factories, etc. Che and better than steam. WRITE BEFORE PURCHAS!! FOOS GAS ENGINE CO., Springfield, Ohio.



ORIGINAL

Lewis Gas Engine

If you want an Engine, let us hear from you

J. Thompson & Sons Mfg. Co. BELOIT, WIS., U. S. A.

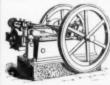
GAS and ENGINE



Uses Gas or Gasoline. Makes no compression while engine is running idle. Charges fired with lectric spark. Made upon honor and fully guar nteed. Write for description and prices.

Columbus Machine Co., COLUMBUS, O.

GAS AND GASOLINE ENGINES



THE SPRINGFIELD

10 W. Washington St. SPRINGFIELD, Ohio



The MIAMI, Uses any kind of Gas or Gasoline. Send for Circular. Correspondence solicited. THE MIDDLETOWN MACHINE CO., Middletown, Ohio, U. S. A.

CROSBY RECORDING GAGES.



Patent Gage Testers, Pressure Recorders, Revolution Counters, Feed Water Regulators, Pop Safety Valves, Water Relief Valves, Original Single Bell Chime Whistles.

Improved Steam Gages, Steam Engine Indicators, Branden Pump Valves, Sight Feed Lubricators, Recording Gages, Ammonia and Gas Indicators, Ammonia Gages, Vacuum Gages,

Perfectly accurate and Reliable for Recording any Kind or Degree of Pressure wanted.

BOSTON, NEW YORK, CROSBY STEAM GAGE & VALVE CO., Main Office and Works: CHICAGO, LONDON, ENG. CROSBY STEAM GAGE & VALVE CO., BOSTON, MASS.

Fuel Economizer "American" The

FOR UTILIZING WASTE HEAT FROM STEAM BOILERS.

No large steam user can afford to run without an Economizer.

The "American" is the best Economizer in the world.

BROOMELL, SCHMIDT & CO., Ltd., Manufacturers,

Cable Address, Broomell, York. "A B C" Code, Fourth Edition.

SEND FOR CATALOGUE.

YORK, PA.

NEW STAR Down Draft Boiler



For STEAM and Hot WATER.

Cleanliness, Efficiency, Economy, Durability.

Steam Fittershould have a copy of our

HARRISBURG MFG. & BOILER CO., Harrisburg, Pa.

M. ZIER & CO. Beller and Sheet Iron Werks.

Manufacturers of Steam Boilers, Chimneys, Breechings and all kinds of Plate and Sheet Iron Work. Stand Pipes and Self-sustaining Smoke Stacks a specialty.

Estimates cheerfully furnished.

Office and Works, S W cer. Pearl and Oak Streets, NEW ALBANY, IND.

SOUTH CAROLINA is a good time to start This

YENRY R. WORTHINGTON

86 and 88 Liberty St. New York

Boston Philadelphia
Chicage Cleveland
St. Louis Detroit
Indianapolis Atlanta
Pittsburg New Orleans

Room and work for

Jetties completed by U. S. Governmen give channel 26 feet deep to the ocean.

Harbor large and deep enough to flo

the PERFECT CLIMATE.

GOOD HEALTH,
PUNE ARTESIAN WATER SUPPLY.
CHEAP LIVING.
CHEAP ELECTRIC POWER.
CHEAP TRANSPORTATION. more than \$2,500,000. E shipments market farms in its by rail and Charleston has uccessful mount to

exemp uring enterprises taxation for five \$10,000,000 manufacturing municipal

rist mills... t iron wks... VORTHINGTO

M PUMPS

ing.....estab'mts. WORTHINGTON

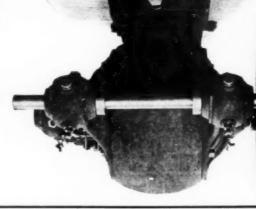
SAVE HALF YOUR P

Per Cent. of Your Labor.

If this interests you, send for particulars of our POWER and LABOR SAVING DEVICES by which we operate your machines WITHOUT SHAFTING or BELTS.

INORTHERN ELECTRICAL MFG. COMPANY,

ENGINEERS, and Manufacturers of DYNAMOS and MOTORS and Special Electrical Equipments, MADISON, WISCONSIN.



JOHN T. BAILEY & GO.

Philadelphia, Pa. Offices and Works-Water & Tasker Sts

IMPORTERS OF

BURLAPS.

ROLLER FLOUR WILLS we build them complete. See THE WOLF CO., Chambersburg, Pa.

Our galvanized sheets bear this stencil



We make only one quality and use no other brand as a trade mark

Apollo Iron and Steel Company Vandergrift Building

The American Balance Slide Valve

BEVEL PACKING RING

ABSOLUTELY STEAM TIGHT

NO SPRINCS.

SELF-SUPPORTING. SELF-ADJUSTING. 15,000 Valves in use on Locomotives, Stationary and Marine Engines. Descriptive Catalogue Free.

AMERICAN BALANCE SLIDE VALVE CO., Jersey Shore, Penna.

"SAMSON" STEEL BELT HOOK.

SAMPLE SENT FREE.

For all kinds of Belts—
eather, cotton or rubber.

THE BEST FASTENER FOR OLD BELTS. Samson Steel Belt Hook Co.

221 Locust Street,
Philadelphia, Pa.



Mr. Thos. A. Edis An order for 8 additional Dri examines a "New is the result. Making 15 in all, for his Works at Edison, N. J. Ingersoll Rock Drill.

THE "NEW INGERSOLL"

Air Compressors-Rock Drills-Coal Cutters The Pohle Air Lift Pump.

THE INGERSOLL-SERGEANT DRILL CO.

VALDOSTA FOUNDRY & MACHINE CO., VALDOSTA, GA. Manufacturers of Boilers, Saw Mills, &c.
We Buy, Sell and Trade New and Second-hand Machinery.

Successors to Shepard Hardware Co. of Buffalo, N. Y.

In Blind, Shutter and Gate Hinges, Gate Latches, Frame Axle Pulleys, No. 25 Niagara, No. 26 Star, No. 30 IXL, No. 60 Square End, No. 35 Acme solid case with markers, and the Gem Machine Pulley from 1½ in. to 2½ in.

We also Manufacture

Stenger's Patent Self-Locking "Noiseless Blind Hinge," Christman's Shutter Lock and Bower, Furniture Casters, Shelf Brackets Plain and Rosette, Plumbers Brackets Nickel Plated and Plain, Hay Fork Pulleys, Well Wheels, Grindstone Fixtures, Nail Hammers, Claw and Shingling Hatchets, Toy Hammers and Hatchets, Toy Sad Irons and Stands, Jackstones in Boxes or Bulk, &c.

WRITE FOR CATALOGUE AND PRICES.

WRIGHTSVILLE HARDWARE CO., Wrightsville, York Co., Pa.

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXIII. No a. .

BALTIMORE, FEBRUARY 18, 1898.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

Manufacturers' Record Publishing Co.
RICHARD H. EDMONDS, President.

OFFICE: MANUFACTURERS' RECORD BUILDING,
BALTIMORE.

RICHARD H. EDMONDS, Editor and General Manager.

> THOMAS P. GRASTY, General Staff Correspondent.

New England Office:
Room 14, 299 Devonshire Street, Boston, Mass
S. I. Carpenter, Manager.

Special Traveling Representatives: RICHARD S. EVANS, I. S. FIBLD.

SUBSCRIPTION, . . . \$4.00 a Year.
To Foreign Countries. . . \$65, 6d, a Year.

BALTIMORE, FEBRUARY 18, 1898.

Let the Good Work Go On.

The convention at Atlanta for the encouragement of manufacturing indus tries in Georgia was the success that was expected. From reports in the daily papers and letters from individuals it is recognized that the gathering was of a most representative character. It was composed of business men from many cities alive to the needs of the State and determined to supply them Its proceedings were full of enthusi asm, and at the banquet which closed the assembly, after the organization for permanent work of the Georgia Industrial Convention, speeches were made full of statistical information upon which a vigorous campaign must be waged and permeated with a spirit of progressive will-power that means omplishment.

Its action was prompt and decisive, It was recommended that the legislature of the State pass an act submitting to the voters of the State an amendment to the constitution authorizing such exemptions from taxation by county and municipal authorities of manufacturing enterprises as will enable Georgia to keep pace with the inducement offered elsewhere.

How there could be opposition to such exemption properly understood and reasonably regulated is hard to understand. Now that the convention has puts its finger on the weak snot. and has named the remedy, its task will be to remove any misapprehen sion about the matter that may still linger. There is an unanswerable argument in favor of the plan. Nothing can compare with manufactures as a means of increasing the financial strength of a community. A study of the increase in taxable basis of territory contiguous to nearly any new cotton mill center in the South will demonstrate that. The coming of an industry means employment for greater population, more money in the shape of wages, to be spent in the shape of house rents and purchases of food and clothing, a wider market for diversified farming and the accession

The South is to enjoy a great industrial growth, and that right soon. Fructifying capital will invariably follow the lines of least resistance. Georgia has determined to remove obstacles and to smooth the ways. That State has set an example for every other State which may find it difficult to secure its full share of development. Let the good work go on in ever-widening range.

Banking for the South.

In a personal letter to the editor of the Manufacturers' Record, Mr. Edward Atkinson, the distinguished publicist of New England, touches upon a subject of vital interest so suggestively that we have yielded to the temptation to publish it. Mr. Atkinson says:

I have said all that I can say of the necessity of such legislation as will give the South the opportunity to supply itself with its own bustruments of exchange. What more can I say? I regard the movement in the State of Georgia as a very important one, namely, legislation granting authority for the establishment of State banks with power to issue bank notes. I understand that this act has been passed in contemplation of resistance to the bank tax, if the comptroller of the currency should attempt to forbid. I hope that course will be taken. I believe that the 10 per cent, tax on bank circulation is an abuse of the power of taxation, and I think it will fall on an appeal. I have always regarded the silver craze in the South as to some extent justifiable under the present repressive conditions in regard to banking. Why, I learn that when the Southern banks adopted small checks in order to carry themselves through the panic, they were threatened with suits for an evasion of the tax laws. I can see nothing to forbid State banks executing reciprocal checks on each other to any extent under present laws which would serve the purposes of circulation, which would not be bank notes, and to which the present law could not be applied, even if it can be applied to the check of a cashier of a bank on his own bank, which is commonly called a hank notes,

present law could not be applied, even if it can be applied to the check of a cashier of a bank on his own bank, which is commonly called a bank note.

What the South needs more even than local banks is the branch bank system of Scotland and of Canada, so that the capital which cannot find a use in the North may find a safe use elsewhere.

There are many persons who, with out regard to politics, believe that the germ of the currency trouble in this country is in the banking system. Others canally sincere and caually inter ested in their country's welfare believe that it is a question of a single standard, and that the banking system should be modified only in the direction of strengthening it. It is very evident that there are a sufficient number of extreme free-silver advocates and of extreme gold men to prevent a speedy settlement of the vexed question as long as it hinges upon the standard alone

In the meantime, it might not be love's labor lost to try a reformed banking system, remembering that this country is a great deal larger than it was in 1860, and that more complex problems of civilization have to be met. The free-silver men contend that a greater volume of currency is needed. There may be more than one way of meeting that need. There are many among the gold-standard men who ac-

knowledge that the national bank system does not meet modern requirements-men who, like Mr. Stuyvesant Fish, would do away with government bonds as a basis of circulation, or, like Mr. Atkinson, who would abolish the 10 per cent. prohibitive tax upon State bank issues. It is believed that such men, who have the preservation of the usefulness and standing of existing institutions at heart, without yielding in the least their desire for freer circulation, could devise a plan which, if it will not settle finally the currency agitation, will do much to mitigate its intensity and to remove it from the curse of politics. The course outlined on another page by Mr. W. R. Trigg, of Richmond, Va., points clearly in that direction.

The trouble with the country is not that there is not enough money in the country, but that it does not circulate Too much blood on the brain produces congestion and death. The same amount of blood properly dis tributed keeps body and brain sound. And so with money. Many maybe are not prepared to accept the plan outlined by Mr. Trigg as final, but it is a great stride in the right direction, as a boon to the South particularly, and not necessarily as an estoppal of the action suggested by Mr. Atkinson. We ask our free-silver friends and our gold friends who are sincere in their convic tions to examine it and question themselves whether the warm discussion has not been waged about an effect rather than about the cause.

It is unreasonable to expect recognition of it from those of either side who have been hugging their idols to their hearts or who have erected scarcerows so realistic that they have stampeded themselves. Nor is their much to be expected from the professional extremists, for their occupation would be asnothingness if the problem were solved in any way but theirs.

But the reform of the banking system upon lines that will give money freer circulation with as great safety as the present is a policy upon which patriotic men of all parties may unite. We believe that the accomplishment of the reform will reduce the question of a standard to a secondary position politically, if it does not, indeed, cease to be a party matter.

For the South's Benefit.

In a letter to the Manufacturers' Record, Mr. T. W. Pratt, president of the West Huntsville Cotton Mills Co., of Huntsville, Ala., says:

I think that the ultimate result of the efforts being made by the National Association of Manufacturers will be of much benefit to the South, as the greatest effort will be put forth to increase our business with South and Central American points.

This is another statement sustaining the contention of the Manufacturers' Record that it is to the best interests of Southern manufacturers to become members of the National Association and an argument for increased activity in developing the South's industrial and commercial opportunities.

Southern Exports Again.

Now that the season during which the South Atlantic and Gulf ports do much of their heavy exporting of the year is here, the figures of the January exports of breadstuffs show that their record of last year is being largely raised. The total value of such exports for the month, compared with those of January, 1897, increased from \$16,971,173 to \$24,771,160, or \$7,799,-987, equal to 46 per cent. Of this increase 66 per cent., or \$5,046,937, was at four Southern ports. In the meantime the exports at Boston were reduced \$28,680, or nearly 2 per cent.. and the greatest gains at other ports were made by Philadelphia in the East and Puget Sound and Willamette in the West, San Francisco losing \$626. 761, or 27 per cent. A comparison of four Southern ports with four others, showing the actual increase for the month and the proportionate gain, fol-

iows.		
Port.	Increase.	Per et.
Baltimore	\$2,818,725	133
New Orleans	974,367	66
Newport News	744,905	58
Galveston	508,940	138
Philadelphia	1,232,932	140
Willamette	892,625	151
New York	686,034	13
Puget Sound	577,288	112

The significance of this comparison becomes greater when it is noted that value of exports at Philadelphia in 1898 are \$3316 less than those of Baltimore in 1897, and less than half of those of Baltimore in 1898; that those at Willamette in 1898 are but \$11,240 more than those at New Orleans in 1897, and that while those at New York were nearly four times as great as those at New Orleans in 1898, in 1898 they are little more than twice as great. New Orleans's exports in 1898 are nearly equal to those of Willamette and Puget Sound combined.

While these statistics are being formulated New York is still plunging around seeking explanation of the modification of its commercial standing. The Philadelphia Record, discussing the complaint of differentials, says:

The grain raised in a large part of the heaviest corn and wheat producing area of the Mississippi valley is 500 miles nearer to New Orleans than it is to either New York, Philadelphia or Baltimore. When the railroad facilities for carrying grain toward the Gulf shall be so far improved as to equal the facilities for carrying it to Atlantic ports, the 500 miles of shorter haul will be conclusive of the direction a very large proportion of Western freights will go. The facility for water transportation on the Mississippi river is a counterbalancing advantage to the facility of lake transportation that must also be taken into consideration in speculating on the future drift of trade. The cities on the Gulf are the real rivals which New York has to fear. As they build up a permanent export trade, a larger and larger import trade will inevitably follow. The ships that carry out cargoes of cotton and corn will bring back merchandise for distribution in the Mississippi valley States. This merchandise will be carried by rail to the places of final consumption at rates

which will defy the competition of the east wideh will defy the competition of the east and west trunk lines. Trade flows, like water, in the direction of least resistance. As the Guif States and the States of the lower Mississippi valley grow in industrial and commercial importance, the cities on the Guif will grow and encroach upon the northward and eastward trade to Atlantic northward and eastward trade to Atlantic
ports. It is better that the export and import trade of the country should be distributed to the several advantageous ports on
our extended coast line than to be crammed
and congested in one or two. There is
enough for all, and the country is growing.

Let the Southern ports exert them selves to bring their imports nearer their exports and they need not fear what New York may do unto them.

Good Judgment Exercised.

In view of the fact that certain products of the Massachusetts Cotton Mill at Lowell can be produced at the mill in Lindale, Ga. a lower cost than they can be produced at Lowell, it is therefore

Voted. That the directors be instructed to sider the possibility of an extension of business in Georgia and report thereof some future meeting of the corporation

This action, according to a press dispatch from Boston, Mass., was taken by the stockholders of the Massachusetts Cotton Mills of Lowell after a comparison of the work of the mills in and Georgia. The reports Lowell stated that the mills in Lowell, in common with other Northern manufacturers of cotton goods, had suffered from the depressed condition of the cotton goods market and low prices, which were below what many classes goods could be produced for under the rate of wages obtained in Massachu-On the other hand, the plant in Georgia, making goods similar to those made in Lowell and obtaining the same prices, owing to the lower cost of man ufacture due to cheaper wages, longer hours, lower taxation and lower cost of power, had been able to return a fair profit.

Here is another indication of a grow ing sentiment in New England which can result only in benefit to the South and New England investors there. is a sentiment which the Manufactur-Record has encouraged systematically and which it will continue to de velop to the best of its ability. It wants New England investors to adopt as a motto: "To the cotton fields."

Educating to Nothingness.

One of the problems of the day relates to the means to be employed to educate the Southern operatives up to the New Eng-land standard.—Fall River Daily Herald.

If the proposed education of Southern operatives is to reduce them to the lamentable condition of the operative of Fall River and other parts of New England, God save the Southern operatives from education! Real education is supposed to develop a man's reasoning faculties and his power of observation. That the endeavors of a Compers to precipitate a general strike 147,000 millworkers in New Engunder present circumstances should for a moment gain any support indicates a lack of real education.

The textile industry in New England is in such a delicate condition that the effects of a shock would be very seri ous. Yet in the face of the fact, acknowledged North and South, that whatever impairs the efficiency of New England mills enables the Southern mills to increase their advantage, and consequently tends to limit still more the opportunities of New England operatives to make a living, the latter seem determined to adopt a policy directly on that line.

Such conduct can be accounted for

a man for the practical affairs of life, and which trains him for self-annihilation. Southern operatives should avoid any action encouraging such a suicidal policy on the part of their Northern fellow-workmen, but above all should turn a deaf ear to alleged educators who would train them to a like frame

Culture in Cotton Mills.

Our New England contemporaries are prone at times to lament the lack of culture among operatives in Southern cotton mills. Thus the Boston Commercial Bulletin recently said:

Southern operatives will not in ma nany years rank of the same relative elligence as the Northern mill hand, nuse of environment, natural conditiause of environment, natural conditions nd lack of educational advantages.

It were a waste of time to argusuch a question, but the dogmatic position may be weakened by a letter that we have received from a New Eng land operative, and which we chalany Southern operative lenge match it. We reproduce it in full, with the exception of the writer's name, as follows, as food for thought for students of comparative philology and culture:

Manufacturers Record

Manufacturers Record
Baltimore, M. D.
Mr. Edmonds Dear sir i Am not i am not
Aguinted with the south Any way what so
ever if i was i culd answer your letter but
as it is i dont see How i can At this time not nowing Anithing About the places Have worked in the mill since I was 8 yers Have worked in the mill since I was 8 yers old now I am just about turn 40 I am in want of a supt Position I Have worked in every room in the mill prity much can Do My work I Have second Handed & Oversecre And bin supt ten for 8 years and I am lookin for Just such a posito you writing Me in regard too the south that is a place that I shuld like to look Over sum time there may bee something there that May be there may bee something there that May be of sum survis too Me dont no shure if your ple nows Of anithing in My line I shuld people nows Of anithing in My line I she very Glad to Have them to bar m Mind if there shuld be anithing I shall you in mind Hoping I shall be Able to sure you leters sum day later On if I s go south I wanted under stud that I ast as good a Manufacture too day as Hever was up with the times and every thing per taining a coton mill Hoping shall Here from you soon Very truly your Hoping that you Will do what ever yo can for me thrug your papers And whs Hoping that you Will do what ever you can for me thrug your papers And what ever wire pulling you May Have With aney one I can refur you to aney supt Or tres In fall river Nety Machine Masons Mac Whitins Machine Or Drapers at Ope dale or William Walsh at Drapers any of these you or aney one els can Writie to them About sober Man never was drunk in my life sir these men Now me all of them. these men Now me all of them.

The writer of that letter has man aged to get along in the world firstrate without being handicapped extremely by what passes in some quarters as education. If he be a genuine product of the cotton-mill industry in New England, there cannot be such a large margin there for criticism of Southern operatives. Our correspondent is not only a skilled operative, but he is a superintendent of a mill and a member of the New England Cotton Manufacturers' Association. What must be the culture of the mere 'skilled spinners and weavers?"

The Manufacturers' Record does not publish this in any spirit of ill-will, but merely as an offset to the unending criticism of Southern cotton-mill operatives, and what our friends claim to be their hopeless ignorance and

Under the provisions of the acts enlarging the area of Memphis, Tenn., the benefits of the sewerage system are to be extended to the suburbs. Memonly by a mental training that unfits phis has learned by experience the ad- Wilson.

vantages of municipal sanitation and has wisely determined to maintain its model policy.

Training in Technology.

The semi-annual meeting last week of the board of trustees of the University of Tennessee had results gratifying not only to the friends of that institution, but also to everybody interested in general education in the South. The reports showed that under the presi dency of Dr. Charles W. Dabney the university is progressing healthily, permitting of the establishment of departments and the erection of new buildings.

Of these the one of chief important is to meet the expanding demands of the mechanical department. It is proed to make this the largest best in the South, and its building will contain the machine shops, pattern shops, blacksmith shop, foundry, hy draulic, electrical and general laboratories, classrooms, etc., the boiler, engine and dynamo-rooms. The equip ment of the mechanical department will be extensively enlarged and im proved. This structure will be built "factory style," and contain all the lat-

In taking this step the trustees are wisely adding to foundations upon which much of the prosperity of the South is to rest. The growth of indus trialism and railroads will create an ever-increasing opportunity for a ca reer for men technologically trained Properly equipped Southern men will naturally have the preference. The University of Tennessee is evidently resolved to do all within its power produce a supply equal to the demand. It should be commended and encouraged to even greater efforts.

Pensacola is not sufficiently advertised. There should be a notice of her resources and facilities in every trade and industrial journal of the Union. Advertising pays, as every shrewd business man knows.—Pensa-

Every town and county in the South need persistent advertising in order to attract attention to their especial re-The world knows of the Sources South in general, but it needs to know of the specific attractions of every lo cality that desires capital and immigration. The South should regard advertising just as essential to its pros perity as does the successful merchant. First, it should liberally support its local papers, in order that they may be its best advertisement, and then it should advertise in publications that reach the manufacturers, the capitalists and the farmers of other sections.

The proposition of the Secretary of the Treasury to consolidate the customs of Norfolk and Newport News, Va., is as unnecessary as it is unex-Its effect upon Norfolk would be only injurious, and the advantage gained by Newport News would be but On the other hand, the change would tend to defer, if not to prevent, the growth in the Norfolk basin of a great commercial and industrial center for which nature has provided and which would ultimately make a consolidation of customs beneficial to all the components of the emporium.

The Engineers' Club of Cincinnati, O., has a membership of 118. Its officers are: President, G. W. Kittredge; vice-president, W. B. Ruggles; directors, A. O. Elzner, H. E. Warrington, William C. Jewett; secretary and treasurer, J. F.

A PLEA FOR CUNCESSIONS.

Mr. W. R. Trigg Writes of the In-dianapolis Currency Plan.

A letter which by its elaborateness and thoroughness will attract wide attention has been written to Gov. J. Hoge Tyler, of Virginia, by Mr. W. R. Trigg, of the Locomotive and Machine Richmond Works. Mr. Trigg is a member of the standing executive committee of the Indianapolis monetary commission, and he contends that the plan of currency reform formulated by that body asks concessions from the gold and silver men alike, to the gain of the latter. Without having his support the silver men, he says, have his deepest sympathy, and he has claimed that the 10 per cent. bank tax was responsible for the unequal distribution of currency. He finds the relief desired in the new plan and has prepared his letter to Governor Tyler setting forth the effect of the plan in Virginia and Indiana, and then in the whole country. In figuring he has considered the plan as fully carried out and as it would be under an emergency, i. e., all notes issued and ultimate retirement of the demand obligations of the government acomplished.

Regarding the profitableness of the note sue, he shows from a statement of October 5, 1897, of the thirty-five national banks of Virginia that "the national banks of the State have \$2,460,000 invested in government bonds to secure an ssue of \$2,000,000 national bank notes, being a first loss in loanable funds to the community of \$460,000.

"Now as to the profit to the banks, say

\$73,800 114,000 Leaves net income \$167,800

which is only 6.82 per cent. on \$2,460,-000, and the loans to the community amount to only \$1,900,000, a loss, including the reserve, of \$560,000 by the issue of notes.

"Now, under the proposed new law, of the \$2,460,000 invested in government bonds, only \$500,000 would be needed to cure \$2,000,000 of currency, leaving \$1,960,000 to loan to the community, and the returns to the bank would be:

8. bonds....... \$500,000 at 3\(\) \$15,000 ceeds of bonds eleased..... 1,960,000 at 6\(\) 117,600

\$132,600

\$2,460,000 reguaranty
funds ... 200,000 1,800,000 at 6s

Less graduated tax (afterwards to be explained and that should be called an interest charge and not a tax), 1.6

Total\$211,800 ss 1/4 government tax for ex-2,500 Net Income.....\$200,300

thich is 8.66 per cent. on the outlay of \$2,460,000, and the loans to the com-munity are \$3,760,000, a gain of \$1,300, 000, and adding to this the loss under the old system of \$560,000, gives \$1,860,000 more loanable funds. Thus the differnce is seen: Under the old plan \$1000 invested in government bonds gives \$800 in currency, and under the proposed plan it gives \$3600, or four and one-half times as much.

"Now as to the tax or interest charge. It is not onerous. The 1 per cent. tax on currency under the present law, and allowing only 90 per cent. issued on the par value of the government bonds, and the consequent large investments at low rates, represents a present greater bur

den to the banks than the average tax under the proposed law, which, besides the ½ per cent. for expenses, is 1-6 per cent. when all is issued; only ½ per cent. when 80 per cent. is issued, and disappears when only 60 per cent. is issued, while the veritable tax under the present law is constant.

"The final riddance of bonds as security on the notes is approached with rapid strides when it is dropped from 120 per cent. to 25 per cent., and the 25 per cent. after five years is to disappear at the rate of one-fifth per annum, all notes being free after ten years, really an average of about twenty-one months.

ıt

16

"Now if the proposed law was passed, and nothing was done under it save and only that the national banks availed themselves of its privileges, see the flood of aid they would bring to the State of Virginia: Their capital amounts to \$4,636,300, and they could issue notes to that amount, increasing the present note issue (\$2,000,000) to \$4,636,300, and releasing \$1,300,925 of money now locked up in government bonds by reducing the \$2,460,000 bond investment to \$1,159,-075."

Mr. Trigg believes that after the adoption of the plan rates above 6 per cent. would not prevail in Virginia. After applying the same reasoning to Indiana and reviewing the work of the Indianapolis commission, and explaining that State banks will be permitted to come into the plan, he shows the profit on \$100 of capital as follows:

25%	in	gov	ern	men	t be	n	ds		8	ŧ	3	ij.,		0			. \$0	7
5%	gu	ara	nty	fun	d								×	*	*	×	*	
13%	re	dem	ptio	n f	und.									0	۰	0		
20%	un	taxo	ed,	at 6	\$			0 0		0 0				0			. 1	50
20%	at	6%,	less	24	tax						. 4			4		4.		86
20%	at	64,	less	6%	tax		*		*	×. 4			×	×	×	٠	×	*
100%																		
100%	in	cal	pital	its	elf.				×	4.	×		×				. 6	00
																	20	a.

The working for a particular bank is given thus:

"A bank organizes with \$100,000 capital, and, investing \$25,000 in government bonds, we have:

. \$25,000			*	ć	×	×			*			*	0					×		×	,				ĸ		
. 75,000	4			٠	•		è	٠	*	e	×	٠		,	,	÷	8	,	×	*	٠	*	*	×	×	*	Cash
\$100,000																											

"Thereupon it is entitled to issue \$100,-1000 in notes, subject to an average tax of 1.6 per cent., and with 10 per cent. of the amount reserved for guaranty and redemption, leaving \$90,000 to loan, with \$75,000 of capital.

() L		in b	ond	ls, at 3% tion and	 	7	50
	\$200,000 Less		on	notes	 	\$10,6 1,6	
						89.0	50

subject to a tax of $\frac{1}{2}$ per cent, on capital and surplus.

"This runs for five years, say:

Trees trees that the former's and the	
\$9,050 × \$5\$ 6th year equals \$9,050 + \$150 (20% of	45,000
bonds released)	9,200
7th year equals \$9,200 + \$150 (20% of bonds released)	9,350
8th year equals \$9,350 + \$150 (20% of	9,500
bonds released)	
bonds refeased)	9,650
bonds released)	9,800
Average for first ten years Average for second ten years	\$9,275 \$9,800
Average for twenty years on 6%	
basis \$9,	991.90

"Now our currency would stand under the new plan:

														91	1,220,819,484
Subsid	in	гу							0	۰	0	٥	0		75,414,007
Silver	d	olla	r	8				۰							452,713,792
															\$692,691,685

Emergency ... 200,000,000 1,000,000,000 \$2,220,819,484

a per capita of over \$27.50 when we have a population of 80,000,000.

"The twenty-two States that voted for Bryan, having a capital of \$103,000,000, can issue that amount of notes without increase of capital and upon about the same bond investment that is called for now on their issue of \$23,000,000 notes, and it is incomprehensible to me if new banks do not arise under a beneficent law, giving them all the currency they need at all times and under all conditions."

Mr. Trigg asserts that nothing is required under the commission's plan that would embarrass the banks as at present conducted, for the trend of it throughout is to relieve credit and do away with restrictions, and, in conclusion, says:

"This plan, if adopted, should give to everyone in the State who is entitled to credit the opportunity to use it—an end that I know you greatly desire to see."

SOUTHERN FURNACEMEN.

Meaning of Their Meeting at Birmingham Still Unrevealed.

[Special Cor. Manufacturers' Record.] Birmingham, Ala., February 15.

There was nothing of significance in the iron market the past week. Quotations were reported as fairly steady and business rather quiet. One could hear of some suspicious evidences that indicated someone was weakening in price, but no facts were forthcoming to substantiate the charge. A general denial is made of any concession by furnaces in this district. The position of the market is strongly in sellers' favor.

The export trade has been rather quiet. Reported among them was one of 2000 tons for Japan. Ocean tonnage was taken with rather more freedom, as an advance of one shilling per ton acted as a stimulus to shippers.

There have been such charges and coun tercharges as to price-cutting among the competing interests in iron that a meet ing of Southern furnaces was held here the past week to discuss the situation heal their differences, harmonize their in terests and work in unison for mutual profit. With these objects in view the meeting lasted two days and then ad journed until this week. This action is 'prima facie" evidence that matters not anticipated by some of the participants came up and required further authority r more deliberate thought before action. The most earnest effort to obtain definite information as to the proceedings has net with no success. All the participants are as dumb as oysters, and, so far, it is close corporation in this respect. But one does not have to be a mind-reader to ounce that the conclusions arrived at and the action determined upon will have an important influence on the market.

The Alabama coal interests competing for the Mississippi river business met their Pittsburg competitors lately and scored a defeat_for themselves. They figured on about what they thought Pittsburg would do, and overlooked what they could do. When the bids were opened Alabama wasn't "in it."

Enough leaked out the past week to induce the positive statement that the rolling mill was on the eve of commencing improvements that would add to the capacity of the rolling mill and enlarge their steel mill. These letters mentioned both ome time back. Those in charge of affairs will not talk, but there is no doubt of the substantial correctness of the report. The management of this industry has been, since the removal of its pres ident to this point, ever in the line of progress and improvement, and its business has increased with its increased facilities and efforts. It is one of the institutions that never passes a dividend.

The minor industries all report plenty of work and more coming in sight right

along. As a point for engine and boiler making, we are fast coming into prominence in the Southern section, and orders from the Mexican border to the Atlantic and from the Gulf coast to the Ohio river are of common occurrence. The Alabama Bridge and Boiler Works have taken orders lately for boilers for 500 and 1000 horse-power capacity, and orders for Corliss engines are no longer "few and far between." In all lines of work the reawakening has come and the spirit of progress has inbued this locality.

J. M. K.

FACTORIES FOR HOUSTON.

Outlook for the Location of New Industries There.

[Special Cor. Manufacturers' Record.] Houston, Texas, February 14.

From present appearances the year 1898 will witness the location in Houston of several factories of different kinds. That furniture will be produced in this city in considerable quantities before the close of the year is now almost a settled fact. The need of tile for under-drainage in the fruit and vegetable belt known as the coast country of Texas is appreciated by several successful tilemakers in different portions of the country, and the advisability of building one or more tile factories is now under serious consideration.

All other matters of public interest, however, sink into insignificance when contrasted with the deep-water channel from this city to the jetties at the mouth of Galveston bay. Our people are becoming well informed regarding the resources the great transmississippi country, which finds its nearest outlet to the markets of the world through deep water on the Gulf. Last year was a prosperous one with the American farmer. The Agricultural Department of the United States has recently issued some statistics which are worth repeating a great many imes. The corn, wheat, oats, rye, buck wheat, potato and hay crops for the year 1897 reached a valuation of \$1,612,329, Add to this a cotton crop of 11,000, 554 000 bales at the low price of \$25 per bale, a total of \$275,000,000, and then the tobacco erop of \$35,574,220, and we have a total of \$1,922,903,774. Certainly derful showing.

But the above figures tell only half the story. To the above total of almost two billions of dollars, in round numbers, let us add the poultry and egg crop, the fruits and vegetables, and then the interesting item of farm animals, which reached in 1896 \$1,727,926,084, and we have as the product of the American farmer the magnificent total of \$4,000.000,000, in round numbers, an amount which would pay our national debt and then leave a surplus to which the fortunes of the Rothchilds, Vanderbilts and Astors combined are but a trifle.

We compliment the business genius of our great bankers and manufacturers, but when it comes to the sustaining power of this government we must depend upon the farmer. In 1896 exports from the farm aggregated \$664,955,372, or 67.38 per cent. of our total exports. The achievement of 1896, grand as it was, was exceeded in 1897, when the exports from the farm reached \$730,323,514, or 67.63 per cent. of the total exports.

The reason why Houston people are particularly interested in these vital statistics at the present time is that this city, which is a most important railroad center between the Missouri river and the Pacific coast, is seeking to add to its transportation facilities by bringing deep water to the railroads. To show why the

transmississippi country is entitled to the appropriation which will give her an additional port, it may be said that Texas raises one-third of the entire cotton crop of the United States, and more farm animals than any other State: Nebraska leads all States as a corn producer; Kansas took second place as a wheat-growing State, and Oklahoma raised more wheat and corn than many of the older States. In fact, Kansas, Nebraska, Oklahoma, Indian Territory and Texas furnished not less than 25 per cent. of the total exports of the United States, and certainly this section which does its part in producing a surplus crop to bring money into the United States is entitled to an appropriation large enough to bring deep water to the chief railroad center of the Southwest.

Deep water on the Gulf coast is almost a religion with the people of the great agricultural midcontinent directly north. The position of the people of Kansas was expressed in an interview published reently in the Houston Post with Mr. Thomas Richardson, an aged merchant Wellington, Kan. Mr. Richardson said: "The Kansas people have greater interest in deep water at Houston than have your citizens here at home, for the reason that the Kansas farmer produces wheat and corn, weighty cereals, upon which the freight is a large per cent. of the value of the crop. There have been instances when it took 65 per cent, of the Kansas farmers' corn crop to get the other 35 per cent. to deep water."

A special delegation of the more prominent business men of this city, of which Capt. J. C. Hutcheson, ex-congressman from this district, is chairman, will leave Houston for Washington on the 23d to appear before the committee of rivers and harbors, and they go with the hope of securing a favorable report on the appropriation at the present session of Congress.

The Houston Newcomers' Association, of which mention was made in the Manufacturers' Record a few weeks since. now embraces in its membership repre sentatives from thirty-eight States and Territories. The chief object of this asociation is to aid in securing a government appropriation for the purpose of making the city of Houston a deep-water ort. All residents and propertyin Houston and Harris county, who have become such in the past seven years, are invited to become members of this asso ciation. The association certainly proves that this city and the coast country of Texas is securing a large immigration from all sections of the United States. The association has compiled and distributed a clear, succinct statement showing the advantage to the West of the deep-water improvement, which will undoubtedly have its effect for good. Hundreds of letters are being received from prominent business men, shippers, farmers, and many from congressmen and enators, pledging aid and support towards securing the appropriation necessary to make the ship channel a realization

Intense interest is being manifested in many portions of Texas in tobacco culture, and this is particularly true of the district of which Houston is the center. Several meetings, well attended by the leading business men of the city, have recently been held to consider not only the culture, but the handling and manufacturing of tobacco. It is hoped that not only tobacco warehouses, but important tobacco factories will be located in Houston as a result of the increased acreage planted in tobacco. Hon, James Wilson, Secretary of Agriculture, gives it as his opinion that as fine a grade of cigar to-

bacco can be produced in Texas as is raised in Cuba. Prof. J. H. Connell, director of the Texas Agricultural Experiment Station at College Station, says "Havana tobacco can be very profitably grown upon many soils in this State Nearly all of the different eigar tobaccoes do remarkably well in Texas." Mr. Geo Schuster and Williams & Brinkley, leaf tobacco dealers, of Milwaukee, Wis., have pronounced samples from this section of Texas as the best American grown leaf tobacco that they had ever seen, and stated that they were willing to take 100,000 pounds at forty cents per pound.

Owen Smith & Co., of Willis, 600 pounds last week to a New York city leaf dealer. The price was not stated, but it was known that Mr. Smith bad said he would not sell for less than sixty cents per pound.

The general wholesale and manufac turing community of Houston is in a prosperous condition. The immigration to this section continues upon the inerease, and the outlook for 1898 being an exceedingly prosperous year is indeed

AROUND THE COTTON MILLS.

Remarkable Industrial Growth in

(Special Cor. Manufacturers' Record 1 Charlotte, N. C., February 14.

No town in the South has attracted s auch attention to itself in recent years by reason of its industrial growth and development as Charlotte. So rapid and substantial has this growth been that Charlotte is now the recognized center of the cotton milling industry of the South ern States a fact conceded by the industrial interests of the country in general and by the makers of textile machinery in particular, many of whom have settled upon Charlotte as the most central pe in the South from which to handle their machinery. The D. A. Tompkins Co. and the Charlotte Machine Co. build and equip cotton mills complete, from laying the foundation to turning on the steam and this country is dotted with some of the finest mills in the whole country as a monument to the skill of these mill-build The Charlotte Supply Co. carries all sorts of cotton-mill machinery and equip ments; the Whitin Machine Co. has ele gantly appointed headquarters here, and the Electrical Engineering & Supply Co. s a large business in its line. territory supplied by these firms from Charlotte embraces in North Carolina and South Carolina 263 cotton mills, operaring 2.295,496 spindles and 60,193 looms The very fact of Charlotte being the cen tral point for this populous milling territory shows the importance of its relation to the cotton-milling interests of the South at a glance,

In Charlotte alone there are twelve cot ton mills, as follows: Ada Manufactur ing Co., yarus; Alpha Manufacturing Co., yarns: Atherton Mills, two-ply yarns Charlotte Cotton Mills, print cloths: Crowley Manufacturing Co., towels: Crown Mills, hosiery; Robbins Manufac turing Co., sash cord; Summerville Mills, webbing; Louise Cotton Mills, convertible eds; Victor Cotton Mills, yarns; Highland Park Manufacturing Co., ginghams; Charlotte Oil & Fertilizer Co., wadding and batting

In Mecklenburg county, of which Charlotte is the county-seat, there are two otton mills at Davidson and mills at Huntersville and Pineville.

The attention which has been attracted to Charlotte by reason of the great development of the cotton-milling industry has been increased within two years past by the springing up of another prosper-

ous industry-the manufacture of trous This branch of industry is now represented by five factories, four of which secupy buildings erected especially ose. The firms now employed in the manufacture of clothing are: Charlotte Clothing Co., the Dixie Pants the Charlotte Trouser Co., the Southern Pants Co. and the Piedmont The factories have three Trouser Co. four, five and sometimes six salesmen on the road and sell goods in several Northrn States, in all the Southern States, in Mexico, throughout the West and in the Pacific Const States.

These two principal industries are comparatively new ones, creations of the past few years, for until 1888 there was but cotton mill in Charlotte. Bearing this fact in mind, the renders of the Manufacturers' Record may be able to get a clearer idea of the remarkable growth of this city from an ordinarily substantial country town to one of the most thriving industrial cities in the entire country, and the capital, as it were, of the cotton-milling South. A small system of water works was put in during 1882. This city then had 11,000 people. It had two large foundries, a female college, its one cotton mill, gas light, roughly paved streets, no street cars and no sewerage.

The population of Charlotte, as aled by a census taken in November. 1897, is a fraction over 25,000. In addition to the cotton mills and clothing fac tories already named, it has two cotton seed-oil works, fertilizer works, two iron foundries and a number of machine shops, electric lights, electric cars, a park and suburban town of fine homes, flour mills, sash and blind and woodworking factories, a water-works plant, doubled in size since 1882, a fine system of sewer ige, elegantly paved streets with si cement sidewalks, three new public build ings, city hall, county courthouse United States postoffice, costing alto gether \$200,000; one of the finest South ern colleges in the South, an evening and a morning paper, the latter-the Observer—a handsome eight-page daily, recognized as one of the finest papers South of Baltimore-these and many other institutions now mark Charlotte is the leading and most progressive town in North Carolina.

Charlotte has four national banks, whose united capital gives the city ample facilities in that line. It is a prosperous shopping center, with big, handsome stores, and has a great out-of-town trade over the six railroads which center here Its reputation as a place of good hotels is vell known abroad. A glance over town shows new houses in all directions. Over 300 houses were built in 1897, one them, the building of the Piedmont Insurance Co., a home concern, being five tories and one of the handsomest buildings to be found anywhere. Within the next twenty-eight months the Four C's Company will put in a new gas plant and will double track its electric car lines on the principal streets, besides extending the tracks through the eastern and north ern sections of the town.

Rapidly as the city has grown up, at luring no year in its history has so much building been done as will be done in 1898-that is, in the way of residences and stores. There are no new factorie being figured on at the present time that There is not an this writer knows of. idle mechanic in the city who wants to work.

One important factor in the commercial and industrial life of Charlotte is the Manufacturers' Club, which has an elegantly appointed home in the Observer Building. This club has given some notable entertainments to visiting delega-

tions of manufacturers and business men from the North. The climate of the place fans health and prosperity; the peo sive, broad-minded and libple are progres ral-spirited. Many of them are wealthy. Charlotte, in fact, being the richest city North Carolina. A New York Sur writer has said that if the money Charlotte's citizens had invested in outside towns was all in Charlotte, this city would have a population of 60,000.

Charlotte has unusually good educational advantages. Elizabeth College, just completed, cost \$75,000. There is a Presbyterian college for wome n, a Catholic convent, commercial and business college, private school for boys and graded schools for white and colored. The white graded school is a large three story brick building, and there are 1200 children on the daily rolls. Biddle Institute, for colored people, located on the suburbs, cost \$80,000.

WADE H. HARRIS.

Some Views from West Virginia.

Charleston, W. Va., February 5. Editor Manufacturers' Record;

As a Southerner I can no longer refrain from the expression to you of the grati tude I, in common with all the people of this section who are enlightened as to the truth, feel to you and your earns cions and uncompromising associates who have, through your great organ Manufacturers' Record, so per ently vindicated, encouraged and promoted the material interests of the South if, indeed, you did not inspire, as you cer tainly hastened, the tremendous revolution in our economic affairs, which now sure so much glory to the South, ever to the extent of establishing upon a permanent basis the indisputable supremac) of our section.

Your sincerity and zeal, your undevi iting devotion to the cause of the South in her struggle against such overwhelming financial conditions that we have been forced to encounter since the war between the States, have been for years illustrated n every number of your great journal, un til now we witness in your harvest a most gratifying reward in the profound appre iation of your invaluable, your ine ble labors. You have constantly uttered to us the "words of truth and soberness." But in nothing have you displayed your devotion to the South and her cause mor than in your opposition to the intolerable scheme to invest a trio of ordinary men with, I may say, limitless power-power o far-reaching, indeed, despotic, as to leave in doubt the disinterestedness and integrity of the member who could even submit a proposition so monstrons to the consideration of Congress, to manipulate and control the invested wealth of others according to their own sweet will. Why should that "interstate railway commis sion" desire to increase the burdens and responsibilities of their office by an enactment? Is it their hope to reap a har vest before the courts can check them by correcting the evil? As guardian of the public welfare the Manufacturers' Record has not failed in its duty to expose the iniquity and danger of such a conspiracy for such it is-against the whole coun try, if it is not designed as an effective means for the oppression of and arrest of the phenomenal progress of the South You have discovered to the people the

I submit that it would be more in accordance with "the eternal fitness of things" to abolish the commission and relegate the railways to their former competitive relation to each other rather than to confer upon an irresponsible coterie the three distinct functions of the nation, viz., to legislate, to construe their

own laws and to execute them in all matters pertaining to those all-important interests of the people, the railways and transportation industries, as well as many auxifiary interests depending upon

We have no apprehension of a failure of prosperity here in our magnificent re gion so soon as conditions admit of progress anywhere in our country. Our coul, timber and iron resources are beginning to receive due recognition. Among others the sagacious and everywhere escemed Mr. Abram S. Hewitt, of New York, has invested largely in our land, onl and timber.

Here at the falls of the Great Kanawha river we have, next to Niagara, the greatst water-power east of the Rocky moun tains, and, surprising as it may seem, this power is entirely idle, though there is immediate use at hand for all of it.

OLIVER A. PATTON.

BEET SUGAR IN VIRGINIA.

Some Suggestions from the Practical

Washington, D. C., February 14. Perhaps there is no one subject intersting all sections of the country as much s that relating to sugar

Over half the States during the past ear, either under State supervisio that of the general government, or both, have made tests.

The narrow band of 200 miles mapped out by the government expert many years ago as being capable of producing beet ugar has broadened to 400 miles or more and tests this present year are to be made still further south. There seems to be no reason given why the sugar beet can not be grown further south than Virginia successfully as other beets.

Perhaps the longer season and warmer climate may give better practical results outh of Virginia than have been develped in New York or Michigan, which this year are the banner States, the tests on an average in both of these States showing 16 to 17 per cent, of sugar with a coefficient of purity of 80 to 90 de-

Tests have been made from year to car in these two States for several ears with a constantly increased value of the beet. This year's tests in these States rave been made under the most favorable conditions. Tests made at the beginning were no more favorable than the average esults made this year in Virginia, who for the first time the State took the matter in charge, but with no experience

This year's tests in Virginia give 13 to 14 per cent, of sugar in beets with 80 to 85 degrees purity, exceeding those of Utah, where beet sugar has been made tecessfully for several years. So it may be that with more experience, and under culture like that given in New York and Michigan, the results will equal or exreed those of the Northern States

The time of seeding and harvesting the cets must vary with the latitude and climate where grown. This has not been followed in the South. Nor will this year's tests in the South be under the best conditions, as the ground was not fertilized and subsoiled last fall for this car's crop of beet. These two points are all-important for good results-fertilization, six months or a year before sowing, to avoid impurities in the beet, making available a large per cent. of the total ugar in the beet; subsoiling, to retain a supply of water, heavily charged with ammonia, to hasten its growth, and before the dry season arrests its develop-

The sugar beet supplied with a large supply of water at the outset conserves the moisture better than any other plant, if seeded in rows sixteen inches to eighteen inches apart, with single beets left standing in the rows six inches to eight inches apart, for the leaves soon spread and protect the entire ground from the sun's rays. Till this is done frequent shallow cultivation of the ground also conserves the moisture.

Failure to get good results in Virginia can be attributed almost always to one of two causes, which can be overcome without difficulty. The first is indifferonce and neglect by the farmer, who pr pares his land shallow, neglects to thin the crop and remove the weeds when the fourth leaf appears on the beet, with infrequent and deep cultivation. Another cause of failure is found in farmers who think they can improve on the methods pursued by the two most successful scientific nations of farmers on the glob where they have grown beets for nearly a century and where over half the sugar or the world is produced. To deviate the least from their methods is to invite failure.

The problem now is how to secure factories and how to get a supply of beets that will warrant spending \$250,000 to \$300,000 in factories. The farmer is asked to take hold of a new crop, concerning which he knows little or nothing, using new methods, for beet-growing is more gardening than farming. It is inse culture, something (outside of truck farming) the Southern farmer knows little about. It requires painstaking care He has never seen the crop grown. His knowledge is hearsay mainly. Someone must get down on his marrow bones to properly care for the crop, in place of riding horseback or on a sulky plow,

The blacks of the South now own numerous small farms, taught to do all kinds of work and anxious to learn and increase their means. Their families are large. From these and the poorer white population is to come the work that will make successful beet culture in the South.

The problem now confronting the beet sugar industry most is the annexation of Hawaii, where coolie labor is used at \$3 With annexation, we can not expect beet sugar to thrive for the next twenty-five years, possibly it may defer it indefinitely. Capital will not be put in beet-sugar factories as long as this annexation scheme is pending, and so the production of beet sugar in the South can not take place for many years, if annexa tion takes place, while consumers of sugar will continue to pay twice the cos and we will tax ourselves over \$8,000,000 yearly for the benefit of a few adventurers in Hawaii and these workmen.

The present reciprocity treaty is the cause of it. Annexation is to perpetuate the evil. It behooves every citizen not hypnotized with jingoism to post himself and then let his representative in Washington know how it affects him. If this is done, the South will produce more sugar than she consumes and supply the rest of the world with sugar as she now does with cotton.

One hundred millions of dollars now spent on foreign sugar will be kept at home, produced at half the price we now pay for it.

BEET SUGAR MANUFACTURER.

An important reature of the sample warehouse which the National Association of Manufacturers is now opening in Caracas, Venezuela, will be a library and reading-room containing such American publications and periodicals as may be of interest to the business men visiting the place. The warehouse will be visited by a great number of merchants from all parts of Venezuela.

COMMERCE.

This department is devoted to a record of the rapidly developing commerce of Southern ports.

Southern Exports from Pacific Ports.

The importance of Southern products to Pacific steamship lines is evidenced by a recent statement prepared by President James J. Hill, of the Great Northern Railway Co., which has a traffic arrange ment with one of the principal Asiatic steamship companies. The statement It shows was prepared for Congress. that in the years 1896 and 1897 there went over these lines from Missouri 208, 662 pounds of cotton; from Mississippi, 307,405 pounds; from Texas, 33,441,605 ounds; from Alabama, 815,527 pounds; from Tennessee, 43,403 pounds; from New York, 295,830 pounds; total, 34,641,-873 pounds. Of sheetings there went from South Carolina 2,517,907 pounds; from Virginia, 105,505 pounds; from Missis sippi, 40,380 pounds; from Alabama, 335, 872 pounds; from South Carolina, 15, 707,603 pounds; from Georgia, 1,804,707 pounds; from Ontario, 33,125 pounds; total, 20,654,854 pounds.

Commenting upon the figures, Senator Davis said: "They disclose some very remarkable facts. The tonnage over these lines from Texas is equal to the total from Pennsylvania and Ohio. Of the manufactured cotton goods, 10,000 tons came from the Southern States, and nothing from New England. Mr. Hill's statenent demonstrates clearly the interest of the United States in the Asiatic trade and in the changes that may occur in European intervention in Chinese com They represent only the exports from Puget sound to the Orient via three lines. It will be observed that not pound of cotton or sheetings was carried by these companies from New England

"These exportations of cotton and sheetings from the Southern States constitute about 20 per cent, of the entire exportation, and are rapidly growing. The great trouble with the increase of this trade is the want of shipping to carry the amount that is pressing upon it, and which can easily be delivered by the railway transportation lines at the various points on the Pacific coast. It indicates the vast possibilities of commerce and especially an enlarged cotton market with the people of Asia."

This explains the chartering of vessels to sail direct from the South for Asia. The steamship Kilbourn, it is announced, has been chartered to load at Southern ports direct for Japan. Most of her cargo will be put on at Pensacola, Fla., and includes 2000 tons of Alabama iron, in addition to cotton. This is the second direct cargo to be engaged for that country from the South.

The Western-Southern Movement.

The diversion of the export grain trade from the North Atlantic to Southern sea ports is indicated by the following disatch from Des Moines, Ia.: "The Me-Farlin Grain Co. has concluded that the grain traffic from this section will here after be diverted to the Gulf. As a re sult it has abandoned its elevators at Madrid and other points on the main lin of the Chicago, Milwaukee & St. Paul tributary to Chicago, and will enlarge its plant in Des Moines by the construction of an elevator at which 200,000 bushels of grain a day can be cleaned and handled. This change is due to the absorption of 50 per cent, of the stock of the Keokuk & Western by the Kans City, Pittsburg & Gulf Railroad, and the proposed construction of a connecting link between Gainesville, Mo., and Kansas City, giving a direct Des Moines connection with the Gulf. Part of the line is completed." This concern is one of the most important in the grain business in the Northwest.

Contracts have been made for the shipment of twenty-five carloads of flour in one lot from Minneapolis to England by the way of Port Arthur, Texas. The flour comes from the large milling companies of Minnesota, and most of it has been shipped by way of Northern ports. It is stated that the Kansas City, Pittsburg & Gulf has made contracts thus far for 125 carloads to go by its route. In addition to this, the company has made arrangements to carry eighty carloads of glucose from Chicago over the same route.

Charleston's Direct Trade.

Mr. Thaddeus Street believes that with the securing of general cargoes, such as have been taken out by many vessels recently, Charleston, S. C., may be able to keep big ships sailing from her far into the summer. In an interview for the News and Courier he said: "Since the erection and successful working of the South Carolina & Georgia elevators and the establishment of quick and direct connection with the great West the closing of the cotton season will not longer mean that the wharf offices here will be quiet and that only coastwise vessels need come and go. Cotton now forms only a part of our exports. Grain, flour, cottonseed meal, pig iron and other things go into the great iron hulls for a voyage across the ocean; cotton, while of course the heaviest article of export during its on, is now only forming a part each cargo that goes out under the flag of the Charleston Transport Line.

Another Mississippi River Line.

The Mercantile Club of St. Louis has taken up the question of another line of steamboats on the Mississippi river and has adopted the following resolution: "The Mercantile Club hereby strongly recommends as of the very highest impor tance to the commerce of St. Louis the early establishment of a regular line of packets from St. Louis to New Orleans. to be composed of light-draught, large carrying, cheap-running steamers, that would be able to make rates of freight that will enable our merchants and man ufacturers to meet the keen, determined and aggressive competition of Southern jobbing centers.'

Baltimore Shipping Facilities.

The large increase in grain exports from Baltimore has called attention to the shipping facilities at this point, and the question of more elevators for storage purposes is being agitated. It is the opinion of grain exporters that with more elevator room the tonnage to Europe would be considerably increased over the present figures. So many large vessels have been in the harbor recently that they have been obliged to tie up two abreast at the wharves, as there was actually a lack of berth room on deep water for them.

South and West Congress.

The South and West Commercial Congress at Tampa, Fla., adopted resolutions favoring completion and control of the Nicaragua canal by Americans, reciprocity between the United States and all foreign powers, completion of the fortifying of Southern ports, a Southern exposition in Chicago and the deepening of the harbors of Charleston and Tampa.

Jottings at the Ports.

N. A. Benner & Co., of New York, have established a regular line of sailing craft

between New York and New Orleans. The fleet will consist of three and fourmasted schooners, averaging 1000 tons burden each.

The steamer Elihu Thompson has cleared from Baitimore with 1000 tons of coal for San Francisco. This vessel, which will go around Cape Horn, is to be utilized in the trade between San Francisco and Alaska.

A recent shipment of Alabama coke has been ordered by Mexican parties which will be sent by way of Pensacola, Fla. It consists of about 100 carloads and was secured by the Standard Coal Co., of Brookwood, Ala.

A New York dispatch announces that the Old Dominion Steamship Co. may increase its service between Norfolk and Richmond, Va., by way of the James river, and that a vessel to make three trips weekly may be put on,

The steamship Riojano recently cleared from Galveston drawing 24 feet 8 inches, being the "deepest" vessel which has yet cleared from the city. Her cargo is valued at \$500,000, and consisted of cotton, corn, borates, spelter and staves.

The latest report of officials in charge of the channel connecting Charleston harbor with the sea shows that the minimum depth at mean high water is 25¼ feet, a gain of one and one-half feet in seven months. The increase in depth is attributed to work of the jetty system.

A dispatch from Jacksonville, Fla., states that a steamer is being planned to be built in that city for the coasting trade which will be nearly as large as the Miami, now in service between Florida and the Bahama Islands. The vessel will be built for C. H. Green, of New York, and C. E. Garner, of Jacksonville.

The ports on the Gulf of Mexico continue to attract the attention of Western financiers and business men. The terminals at Galveston were recently inspected by a delegation from Omaha, Neb., which included the presidents of two banks and representatives of an agricultural supply firm, coal and lumber company and wholesale grocery house. It is understood that the visit was made with a view of estimating the importance of Galveston as a point for exports.

The Old Dominion Steamship Co., of New York, has elected the following directors: R. C. Hoffman, F. J. Kimball, C. P. Huntington, C. P. Fischer, William Rowland, W. L. Gillaudeu, C. C. Stockley and John W. Causey. An interesting feature of the directory is that three of its members are presidents or leading officials of prominent railroad systems in the South. They are as follows: R. C. Hoffman, president Seaboard Air Line; F. J. Kimball, chairman of the board of directors of the Norfolk & Western Railroad, and C. P. Huntington, president Southern Pacific.

The Quarantine Convention.

The Quarantine Convention at Mobile, after providing for another convention at Atlanta in April, adjourned last Friday. The resolutions adopted as a compromise have rather a bazy aspect considered as a whole,

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the Manufacturers' Record. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Cost of Passenger Transportation.

Relative to the proposed reduction in railroad fares by the railroad commission of North Carolina, Vice-President St. John, of the Seaboard Air Line, makes the following statement:

"The passenger business of a railroad is in a very large sense-whatever its earnings may be-the most important usiness it is called upon to transact, in that it deals with the traveling public, requiring at the hands of every official d employe such careful and exacting observance of rules, promulgated for the movement of all trains, as shall enforce to the greatest extent possible every precaution adopted for the safety, comforand convenience of its patrons. Negli ence, however slight, is resented, and oftentimes results in damages which the railroad company must pay, and cases can. I think, be cited where awards in contested suits have at least seemed ex

"The perhaps popular idea that it costs less to carry passengers in certain States-North Carolina included-than it did some years ago, is a fallacy. The cost has increased. Passenger coaches have been improved and cost more than they did in former years; wages have by no means perceptibly decreased, but on the other hand, the educated or skilled labor, required to manipulate the various devices used upon passenger trains exacts, and naturally so, a higher rate of compensation. The laws of Congress and of most States demand the applica tion of safety appliances to all equipment freight and passenger, costing thousands upon thousands of dollars. Commissionof railroads sometimes order, we think, when the real requirements might be delayed a little without injury to peo ple or railroad, improved station accommodations, The demand for added and improved train service, with an increased number of stops, and faster time, is constantly pressed upon all managers of railways. This necessitates heavier engines, heavier rails, constant expenditures for ballast and other improvements upon the roadway, the reduction of grades, the filling of trestles, the elimi nation of dangerous curves, steel bridges in place of wooden ones, and heavier and stronger coaches, in order that the greatest speed consistent with safety and comfort may be secured and the desired end accomplished.

"Are not these improvements preupon us so strenuously and costing such an enormous outlay of money, of the very greatest importance, and is it not true that the securing of them adds to the insurance against accident, and if is it not true that railroads in the South, requiring so much to bring them up to anything like the standard of railads in other sections, should be carefully dealt with, until a very much hugher excellence in their physical condition is obtained, and should not the peo ple contribute thereto by paying reason rates for transportation, in order that this desired result may be accomplished? On nearly every railroad the passenger train mileage, i. e., miles run by passenger trains, has been increased to meet a public demand for increased speed, necessitates shorter trains and fewer stops, which, in turn, frequently necessitates added trains for local travel. which in the very nature of conditions does not and cannot be expected to pay until such time as the population shall have very materially increased."

Developing Southwest Georgia.

The present year will probably upletion of a railroad system which will traverse one of the most important parts of Southern and Western Georgia and bring the business of several of the largest towns to the Augusta market. everal months past arrangen have been made for a combination of several short lines to be connected by branches where necessary. The eastern terminus of this combination is Tennille. Ga., where it will reach the Augusta Southern division of the South Carolina & Georgia Railroad. The Manufacturers' Record has already published the dethe absorption of the Augusta Southern by the other company referred to. President James U. Jackson of the Southern, has been alive to the advantages of such a combination of railways as we have described, and largely through his efforts the Augusta Southwestern has been chartered. This company will include the lines now in opera tion and the new mileage to be built. The incorporators of the company are Messrs James U. Jackson, C. W. Jackson and F. W. Schofield, of Augusta; H. B. Massey and J. A. McCrary, of Tennille; James Wright, of Macon; J. Pope Brown, P. H. Lovejoy, E. J. Henry and S. A. Way, of Hawkinsville; Lee B. Jones and Jos. E. Bivins, of Cordele, and L. Q. Stubbs al William Pritchett, of Dublin

The length of the proposed road is 100 miles. It will run in a southwesterly direction through the counties of Washington, Johnson, Laurens, Dodge, Pulaski, Wilcox and Dooly from a point on the Augusta Southern Railroad at or near Tennille to Cordele. The amount of capital stock will be \$1,000,000.

Chesapeake & Ohio at Norfolk.

It is understood that the Chesapeake & Ohio Railroad Co, will begin the work of improving its terminals at Norfolk, Va., during the present year, and that the company is arranging to construct piers udditional tracks and other facilities. The Manufacturers' Record learns on official authority that there is considerable truth in this report. As is well known, the 'hesapeake & Ohio owns a large frontige on the best part of the harbor and in the central part of the city. Tenants of the buildings on this property have reseived notice to vacate by a certain date, and it is understood that the work of improvement is to begin within a few weeks. In this connection it is reported hat the Chesapeake & Ohio may purhase the Norfolk & Ocean View Railand when it is sold by order of the court and operate train service over it, carrying its cars across Hampton Roads from its present terminus at Old Point Comfort. The Norfolk & Ocean View Railroad Co. ontrols valuable rights of way in the city which could be utilized by the C. & O, in reaching its water-front property.

New Roads in North Carolina.

Two companies are promoting railroad lines between Raleigh, N. C., and the timber district in Harnett county, the proposed termini of both lines being on Cape Fear river. One col entitled the Cape Fear & Northern. Among those interested is G. Benton Alord, of Holly Springs, N. C. The other, which is to be called the Raleigh & Cape Fear, is reported to be built in the interst of the Southern Railroad. Among its directors are John A. Mills, of Raleigh; W. J. Upchurch, of Raleigh, and T. B. Upchurch, of Carthage, N. C. The company is to be capitalized at \$200,000, and es to build sixteen miles of this line within the next six months. It is stated that its eventual destination is to be Wilmington, making a short route from the capital of the State to its principal seaport.

Railroads in West Virginia

[Special Cor. Manufacturers' Record.]

Charleston, W. Va., February 12.

Prospects are good for the completion of the Charleston, Clendennin & Sutton Railroad from Clay C. H. to Sutton, where it will connect with the West Virginia & Pittsburg system.

Three new mogul engines have been received here by the Kanawha & Michigan Railroad to be used on the road as freighters. The engines were constructed by the Baldwin Locomotive Works, of Philadelphia, and were built to haul heavy trains.

They Want a Railroad

In a letter to the Manufacturers' Record, Mr. H. C. Chapman, of Florence, S. C., writes that the people of Chesterfield county and its section in the same State are anxious to have a railroad from Cheraw to Chesterfield and thence to Camden and Columbia, thus making an air line from the Seaboard Air Line at Hamlet to Columbia and Jacksonville. In the advantages of such a road he includes the opening up of a large timber section and the development by immigration of cheap but rich lands.

Differential Rates for the Scaboard.

The Seaboard Air Line has secured a differential passenger rate which will be a great advantage to it in obtaining passenger business to the South. The rate to principal Southern cities is about \$3 less than by other lines, and is granted upon the claim of the Seaboard that it has not obtained the facilities for passenger transportation north of the Potomac river which have been granted other companies. The Pennsylvania Railroad has issued a tariff showing the differential in favor of the Seaboard.

May Enter Birmingham.

According to a dispatch from Birmingham, Ala., the Illinois Central has made arrangements by which it will enter this city by way of the Kansas City, Memphis & Birmingham Railroad. It is reported that the Central has obtained control of the former road. It can reach the city from Aberdeen Junction, Miss., where the two roads are connected. It can also reach the city from Holly Springs Station, Miss., where the main line crosses the Kansas City, Memphis & Birmingham.

A Report Denied.

In a letter to the Manufacturers' Record, President E. H. R. Green, of the Texas Midland Railroad, states that there is no truth in the dispatch that an extension of this line is contemplated to the Chicago, Rock Island & Texas system, in which it was stated that Mrs. Hettie Green was interested.

Railroad Notes.

- J. F. Weed, of Houston, Texas, has seen appointed chief engineer of the Gulf, Beaumont & Kansas City Railroad,
- Mr. Charles H. Ivers has been appointed general agent for the Kansas City, Pittsburg & Gulf at St. Louis.
- J. G. Eaves has been appointed commercial agent of the Louisville & Nash ville Railroad Co, at New Orleans, La.

The Blue Ridge & Atlantic Railway, extending between Cornelia and Tallulah Falls, Ga., has been sold to George R. Prentiss, of New York, representing security-holders in the line.

The Baltimore & Ohio Railroad Co. announces that on March 1 J. A.

Murray, the present coal and coke agent, will be given the title of general coal and coke agent of the entire system, with headquarters at Baltimore.

H. B. Kane, of Palestine, Texas, it is stated, has been appointed receiver of the Kansas City, Watkins & Gulf Railroad, which extends between Lake Charles and Alexandria, La. The receiver was appointed upon the application of the Farmers' Loan & Trust Co.

The February issue of the Official Railway Guide is of special interest to all Southern travelers, as it contains the revised timetables of train service to winter resorts in the South, as well as other changes in railway schedules which are of the greatest importance to travelers generally. A number of timetables of new railroads are included in this issue.

The passenger department of the Queen & Crescent route has issued an attractive iilustrated booklet descriptive of the scenery and points of historic interest along the line between Cincinnati and Chattanooga. It contains a very interesting account of many points along the road and is profusely idustrated with handsome half-tone engravings and silver prints.

On March 1 Edward S, King, now commercial freight agent of the Baltimore & Ohio Railroad Co. at Baltimore, will be transferred to Philadelphia, with the same title and duties. His successor in Baltimore will be H. W. Atkinson, now chief clerk to General Freight Agent Galleher. J. R. Bell, of the general freight office in Baltimore, will succeed Mr. Atkinson as chief clerk in the freight department.

The following officers have been elected for the Charleston & Western Carolina Railway, recently purchased by the Atlantic Coast Line: President, J. B. Cleveland, Spartanburg, S. C.; vice-president, H. Walters; traffic manager, T. M. Emerson; general manager, John R. Kenly; general auditor, W. A. Riach, all of Wilmington, N. C.; general freight and passenger agent, W. J. Craig, Augusta, Ga., and general superintendent, A. W. Anderson, Augusta, Ga.

Alabama's Mineral Production.

The production of minerals in Alabama in 1897, according to returns to Chief Mine Inspector James D. Hillhouse and State Geologist Eugene A. Smith, who is also secretary of the Alabama Industrial and Scientific Society, Coal, 5,868,271 short was as follows: coke, 1.381,252 short tons; pig iron, 923,895 long tons; iron ore, 3,241,846 long tons; limestone, 494,655 long tons; bauxite, 10,583 long tons; building stone, 80,-000 cubic feet. Alabama should also be credited with about 2500 tons of bauxite, hauled in wagons from mines in Alabama to Cave Springs, Ga., and shipped thence by rail.

Literary Notes.

The Unseen Hand. By Lawrence L. Lynch. Publishers, Laird & Lee, Chicago.

This is one of Lynch's best detective stories. The plot is three-headed, and originating in different motives, involves in an apparently inextricable maze a man of high repute in his community. Clever work by a society woman and a friendly sleuth ends the difficulty.

How a rich Roman lived when Vesuvius buried Pompeii out of sight is described and fully pictured by E. Neville-Rolfe in Scribner's for March. The recently excavated house of "A. Vettius" was elaborately photographed by a famous photographer of Naples to illustrate this article.

TEXTILES.

[A complete record of new textile enter-prises in the South will be found in the Construction Department.

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general disc

NEEDS OF THE NORTH.

Wise Policy Demanded by Existing Conditions

In a letter to the Manufacturers' Rec ord, Mr. Sidney B. Paine, of Boston, of the General Electric Co., writes concerning the cotton-mill situation as follows:

"I am not a cotton manufacturer. I therefore do not feel authorized to speak from that standpoint. My business has, however, brought me into intimate relations with prominent men on both sides of Mason and Dixon's line. I therefore write entirely as an individual and outsider who has looked upon this discussion not only without prejudice, but also with the most friendly feelings toward both parties.

"Many manufacturers in the North feel that it is only a question of a short time before there will be an equalization of the hours of labor and rate of wages be tween the two sections of the country, and that this adjustment will be brough about by entirely natural means. Until recently the South has been an almost nuknown country, and the cotton manu facturing industry has quietly grown attracting the attention of but few of the Northern manufacturers. Many of these-in fact, the large majority-have appeared to shut their eyes to the many advantages which the South afforded. Now that the true condition has been forced upon their attention, many are endeavoring to reassure themselves by the hope that the Southern operatives will, of themselves, demand the shorter hours and higher wages enjoyed by their Northern competitors. This equalization may be brought about in time, but, in my opinion, it will be a slow process. Southern white operative is watching. with keen interest, the experiment of the employment of colored labor in Charleston, S. C. While it is true that the suc cess of that experiment will not neces sarily prove the feasibility of using colored help elsewhere (the conditions in Charleston being peculiar to that city alone), it will deter the white employe from taking any radical step. Again, the compensation received by these white o eratives is so much higher and the mill life so much more enjoyable than in any other employment open to them that they will be slow to make any move which may result in their returning to their farms.

"In a majority of cases the Southern manufacturer is in much closer touch with his help than is the Northern manu-This is especially true where the mill is isolated and the factory village system places the manager of the mill in a position quite different from that where many mills are concentrated at one point, as is the custom at the North

"Unquestionably, assurance of im munity from adverse legislation offer an attraction which capital will not ignore. Other factors being equal, that be it North or South-which guarantees such protection will offer one of the most attractive inducements to the investment of capital.

through this agitation, the Southern man-

ufacturer has kept absolutely quiet. And why should he not? As one manufacturer (he had been manager of a large mill in the North) stated to the writer: Why should we advertise the advantages which we possess? The longer you in the North decline to recognize them, the better it is for us.' These advantages are not merely in longer working hours and lower wages. An hour longer of daylight each day, uncompressed, cleaner and dryer cotton, more favorable freight rates to the centers of distribution. cheaper power-all these and others are in favor of the South. Consider a mo ment the item of freight. It costs Lowell least a third of a cent per pound of cloth more to pay the freight on the cotton and deliver the cloth in New York than it does Columbia, S. C., to deliver the same cloth at the same point. This saving will pay a small dividend on the capital invested.

"The South abounds in magnificent water-powers within reach, by means of dectric transmission, of the great trunk Already power companies have been organized and are prepared to de liver the power to the mill at a price which cannot be duplicated in the North except under the most favorable condi-This plan reduces the capitalization required, as the mill invests only in motors, and more than one-half of the ost of a steam-power plant is saved. The amount thus saved may be invested in machinery, which will earn a return, rather than in a steam plant, which is a onstant expense.

"If the above statements are true, it does not necessarily follow that the cotton industry in New England must folow the iron business to other sections of the country. The North has been, and in all probability always will be, the financial center; from it will continue to be poured forth the products of invention, and its skill must to a certain extent offet the natural advantages of the South The business here, however, must be specialized, and more attention must be paid ot only to securing an outlet by export, but to maintaining that outlet when once established.

Cotton Mills and Legislation.

Mr. C. R. Makepeace, of Providence R. L. a well-known mill engineer, who has been instrumental in securing the in vestment of a large amount of New England capital in Southern mills, having been the architect and engineer for s of the best mills in the South, in a letter to the Manufacturers' Record under date of February 5 writes in part as follows:

"The developments of the last six months have made it necessary for me to arefully and impartially study the present, and form, if possible, some intelligent idea as to the future advantages of the South, when compared with New England, for manufacturing purposes. I refer, of course, to the manufacture of on. I cannot close this brief note without commending the position you have taken as against the populistic agitation which has of late been enacted, or, at least, discussed, by some of the State legislatures in the South, and as the result of such ideas will say that only a few days since I was talking with a gentleman regarding the suitable location for a cotton mill which he, with others, contemplates erecting at some point South, and I suggested a certain State. He replied by taking from his pocket a clip ping cut from a Southern paper, and placit before me, said: 'Build a cotton mill in a State where they pass such laws as the one contemplated in that ar-"You must have noticed how, all ticle? No,' he added, 'if that is what you think, I beg to differ with you."

"A cotton mill here in New England properly equipped will make money at the present prices of cotton and goods, but here are many plants from which, if the best were culled and moved South, the stockholders would in the next few years be far better off."

NEW MILL MACHINERY.

The Advantage Given by It to the Southern States

For several weeks a careful, wellquipped, conservative correspondent of the New York Journal of Commerce has been writing letters descriptive of the cotton-mill situation in the Piedmont re gion of the South. In an editorial summary of the conclusions from the letters the Journal of Commerce says:

"There is a small difference in wages in favor of the Southern mill owner. He has also a considerable advantage in the hours of labor, the value of which, however, is not determined, and he has the substantial advantage of new machinery. The difference in wages is small. and, as stated above, it is greater between one Southern State and another than be tween Georgia and Massachusetts. Furthermore, differences in wages, when stated by the day or week, are apt to give an exaggerated impression. A difference of ten or twenty cents a day, distributed over the pounds of yarn or yards of cloth produced in a day, does not lose its significance, but it does lose much of its impressiveness. If wages are 30 per cent, of the cost of production, a differnce of 10 per cent, in wages would be 3 per cent, of the cost of production. This fraction might be decisive were all other nditions alike, but they seldom are

"The mills of Massachusetts run less than ten hours a day; in the South they asually run over eleven and a-half. Here is a difference of 18 per cent. If the Southern mills produced 18 per cent. more goods with the same amount of machinery and labor, the Northern mills would be out of the race. That the advantage of the longer day should be a matter of dispute is evidence that the advantage the Southern mills is not in the full ratio of the longer working day. An advantage of 10 or 15 or even 20 per cent. n wages, together with an advantage of 18 per cent. in the production per week, would leave no room for discussion as to the relative advantages of North and South.

"There remains the advantage of new nachinery, including improvements machinery. The older mills in some parts of New England contain a great deal of machinery put in years ago and not so efficient as it once was, or as machinery more recently invented. The Southern mills have been equipped within a fev years, and generally have the most efficient and most economical machinery that is made. Builders of machinery find their owners much easier customers than the mill owners of the North. In the use of the automatic loom the Southern mill has a decided lead over the Northern

"Here probably we have an important secret of the success of Southern mills. They have a little advantage in wages They have a little advantage in hours of labor, though hours longer than those now prevalent in the South used to pre vail in England and Massachusetts, and gave way to shorter hours as on the whole more economical. And to these small advantages there is the further and probably much more substantial one of ew and improved machinery. If, as one of the Southern mill owners told our correspondent, the financial statements of

ances for depreciation, it will be found in a few years that the conditions of pro duction North and South are more nearly equal than at present appears.

Proposed Cotton Pool.

Relative to the proposed pool among otton-growers according to plans of Mr. Frederick Turnbull, Mr. Roddy, and others, the Charleston News and Courier says:

"It seems hardly necessary to say more on this subject, but we cannot refrain from asking why Mr. Turnbull is so moderate in fixing the price of the lowest grade of cotton at eight cents. Why not make it twelve cents or twenty-five cents or \$1 per pound? Mr. Roddy and Mr. Turnbull both insist that the South has a monopoly of the production of cotton. Such is not the fact. Cotton is raised in other parts of the world, and the area suited to the cotton plant outside the cotton belt of the South is larger than the cotton belt itself. We have at present a practical monopoly of the cotton market, because, quality being con sidered, our cotton is cheaper than that of other countries. Make the price high enough to be remunerative elsewhere and our monopoly would be at an end. The South has to beware of two courses: 1. Producing more than the world wants, and thus reducing the price to an unprofitable point. 2. Producing less than the world wants, and thus stimulating production in other parts of the world. Each cotton-planter must decide his coton acreage for himself. In cottonplanting, as in other occupations, the fittest will survive. The man with capital and the brains to use it will win.

This argument and these suggestions are in line with the position held by Mr. D. A. Tompkins, of Charlotte, N. C., who has studied the question for years,

Georgia vs. Massachusetts.

The annual meeting of stockholders of the Massachusetts Cotton Mills of Lowell was held recently at the office of the The annual meeting of Massachusetts Mills in Georgia was also

Reports on the year's busin two mills were presented. The mills in Lowell, in common with other Northern manufacturers of cotton goods, suffered from the depressed condition of the cotton goods market and low prices, which were below what many classes of goods could be produced for under the rate of wages obtaining in Massachusetts. On the other hand, the plant in Georgia, making goods similar to those made in Lowell and obtaining the same prices, had been able to return a fair profit, owing to the lower cost of manufacture, due to cheaper wages, longer hours, lower taxation and lower cost of power. Influenced by thes results, the following vote was passed manimously by the stockholders:

"In view of the fact that certain products of the Massachusetts Cotton Mills at Lowell can be produced at the mill in Lindale, Ga., for a lower cost than they can be produced at Lowell, it is there fore voted that the directors be instructed to consider the possibility of an extension of business in Georgia and report thereon at some future meeting of the corporation."

The two companies above referred to are controlled by joint owners, Mr. Augustus Lowell, of Boston, being president of both.

The Cotton Movement.

In his report for February 7 Secretary Henry G. Hester, of the New Orleans Cotton Exchange, shows that the local Southern mills do not make proper allow- cotton brought into sight to February 1

was 8,637,427 bales, of which 2,521,594 came from Texas, 2,809,872 from other Gulf States and 3.305,961 from Atlantic States. The total is 1,510,966 bales more than the total for the five months ended January 31, 1897, and within 120,537 bales of the total crop of 1897. The movement after January 31, 1897, was 1 621 502 bales.

Southern Mills Busy.

In announcing that Southern mills are in a more prosperous condition than they have been for some time, the Macon (Ga.) News says:

"At present the mills here are considerably behind with their orders, and all of them are running on full time with full force of hands and without a cent reduction in wages, which is in marked con trast to the mills of the North. The condition of affairs in the New England States and the shutting flown of the mills there is responsible for the prosperous condition of the Southern mills. Large orders are being received from the North and the Southern mills cannot fill the de mands made upon them. Early in the season the mills of Macon commenced buying cotton heavily until their stor age rooms were filled to overflowing, and this stock is being rapidly consumed, and what was considered a full stock for the season will have to be replenished. During Christmas, 1897, the operatives of the mills were given a week's holiday. while this year they were only given one day, and an hour was added to each day's labor until the lost time was made up This condition of affairs was brought about by the great demand made upon While the price of cotton stands firm the price of cotton goods has increased considerably. All the cotton mills are now running full time and have their hands full, while the thousands of spindles in the North now stand still."

Textile Notes

Mr. J. W. Eckford, of Aberdeen, Miss., writes to the Manufacturers' Record suggesting that place as a site for any New England mill desiring to move, doen has three railroads and a river, and 75,000 bales of cotton, he says, can be rought on wagons to the mill's doors.

A charter has been granted to the Memphis Cotton Mill Co., of Memphis, Tenn. with a capital stock placed at \$120,000. The incorporators are Messrs, Noland Fontaine, Austin Miller, James E. Beasley, Louis Erb, S. H. Brooks, J. F. Graham, John Jackson and John B. Clough.

The Meansville Manufacturing Co., of Meansville, Ga., has been organized for the purpose of erecting and operating cotton gins, cotton mills, woolen mills, The incorporators are J. M. Means ete. and W. A. Bates. The capital stock is placed at \$10,000, with the privilege of increasing to \$50,000.

Pursuant to the order of the court, the Globe Cotton Mills, of Rock Hill, S. C., was sold at auction on the 7th inst. The purchaser was Mr. W. B. Wilson, repre senting the bondholders. The price paid was \$40,000, and it is thought that a new ompany will be formed to put the mill in operation. The mill is equipped with over 5000 spindles and some looms. Its product is yarns and colored goods.

The Belair Factory Co., of Augusta. Ga., has been organized to establish a mill for the production of knit goods. The plant will be located at Belair Station. near Augusta, where a building has been secured, together with water-power for running the machinery. Eight hundred machines will be purchased. The con pany's capital stock is \$20,000, and W. O. Boykin, of Augusta, is president.

COTTONSEED OIL.

This department is open for the full a free discussion of trade topics and practic questions, and contributions are invited fro men who are identified with this industry. s of news are always acceptable.

The Market for Cottonseed Products. New York, N. Y., February 15. Cotton oil has been slow throughout the week, but the influences which control the future of the market have been marked. Lard has advanced materially since our last, but owing to the efforts of important producers, as well as packers, cotton-oil values have not correspon ingly advanced. The prediction that plenty of hogs were in sight has not been verified, which, taken in connection with the fact that a small corn crop is ahead, would indicate that, regardless of bear tactics, animal products, as well as cotton oil, will, after this temporary check, assume their relative values. At this writing it is difficult to sell sun low on a basis of 22 cents, the highest bid being 211/2 cents, and for March de livery 1/2c. higher. Yet lard is quoted at 5.20 cents Chicago, July delivery, Lard is quite active, while fats are also mov ing freely, especially oleo stearine and oil, in consequence of the increased demand for compound lard, which latter is quoted at 4 to 41/2 cents. Tallow is slow but steady at 35% cents. Reports reach ing here from various parts of the South indicate plentiful seed supplies, and with regard to the prospect of higher prices for cotton oil, everything would indicate that, although deferred, it is assured Shipments have been very slow, the holiintervening tending to reduce still further the volume of business. Crude in barrels is scarce at this market and is very firm at the appended quotation. Sales of tank lots of crude. Atlantic coast points, are reported at 15½ cents. Liverpool refined is reported as improving in price and ranging, as to quality, from 14s, 9d, to 15s, 6d. Egyptian seed is arriving in English ports freely at slightly higher prices, which would indicate am ple supplies of oil for soapmaking purin that country. Exports from New York have been heavy, but the figures represent shipments on old sales, in the main 12,650 barrels, of which 9500 were consigned to Marseilles. Receipts have been comparatively light, 4650 bar rels. The following are closing prices: Crude, 18% to 19 cents; crude, loose f. o. b. mills, 151/2 to 16 cents; summer yellow prime, 22 to 221/2 cents; summer, off grade, 21½ cents; yellow, butter grades, 25 to 26 cents; white, 241/4 to 25 cents; winter vellow, 27 to 28 cents; salad oil,

Cake and Meal.—The demand at prioints in the South has been s with prices slightly lower. Advices from England are to the effect that owing to the mild, open weather, the consumption of oilcakes is a disappointing one, yet, in the absence of any pressure to realize, values generally are upheld, although American cotton cakes favor buyers,

27 to 28 cents, and soap stock, 1/2c, to 5/4c.

per pound.

Cottonseed-Oil Notes.

It is stated that the Chattano ton Oil Co., of Chattanooga, Tenn., is about to build a new cottonseed-oil mill somewhere in Georgia, Tennessee, Alabama or Mississippi. The location has ot been decided upon, but it is said that Memphis offers the most favorable opening.

The foreign shipments of cottonseed products from the port of Galevston, Texas, for the seven months ending January 31 were valued at \$576,414, and in cluded the following shipments: Cotton eed meal and cake to Great Britain and the Continent, 52,404,619 pounds; cottonseed oil, 510,276 gallons.

The market for cottonseed products in Texas last week showed no change, and values were steady as follows: Prime rude oil, loose, 14½ to 15 cents, and prime summer yellow oil offered at 17 ents; prime cottonseed cake, \$13.50 \$14.75, and prime cottonseed meal, \$13.50 to \$14.25 per short ton; linters per pound, 1% to 2% cents. The above figures are f. o. b. mill at Texas interior points, ac cording to location.

The market in New Orleans for cotton eed products is steady, with prices not materially changed. Receivers' prices are reported as follows: Cottonseed, \$7 per ton of 2000 pounds delivered to the mills cottonseed meal jobbing at the depot, \$17 to \$17.25 per short ton, and \$18.50 per g ton for export f. o. b.; cottonseed oil. 17% to 18 cents per gallon for strictly erude; in bulk, 15 to 151/2 cents, and 9115 to 22 cents for refined oil at wholesale or for shipment; oilcake, \$18,50 o \$19 per long ton f. o. b.; linters 2% cents per pound; B, 2½ cents; C, 2½ cents; hulls delivered at 12 to 171/2 cents per 100 pounds, according to the location of the mills.

Shoemaking in the South.

J. W. Carter & Co. have recently completed a shoe factory near Nashville, Tenn., which is one of the best in the ountry. It is located on the Louisville & Nashville Railroad, and has a capacity for making 5000 pairs of shoes daily, giving employment to 500 hands. According to a statement of Mr. J. W. Carter, the company located in the South for the following reasons: The advantages of cheap fuel, cheap living, intelligent, cheap "Why," continued Mr. American labor. Carter, "in the East it costs twice as much to live as it does in the South. Lumber costs four times as much as it does here. We can buy our material just as cheap, or cheaper, here than they can in the East. Then, why can we not make and sell shoes as cheap or cheaper than the Eastern factories? That is just what we are going to do, and time will prove it. I firmly believe that we can make better shoes in Nashville at 25 per ent, less cost than the factories in the East can."

The cotton mill company proposed at Sulphur Springs, Texas, noted last week, will be known as the Texas Woolen & Cotton Mills Co., with capital stock of \$50,000. The company will establish a plant for the joint production of cotton ind woolen goods. Mr. W. L. McDaniel is pushing the enterprise.

The Wehadkee Cotton Mills, of Rock Mills, Ala., has declared a quarterly dividend of 2 per cent. Engine and boiler to furnish from 125 to 150 horse-nower will be purchased, but as yet the company is undetermined whether to put in new or second-hand machines Proposals are now invited. Mr. F. P. Randle is secretary of the company

The Kinston Cotton Mills, of Kinston N. C., has been incorporated for the purpose of erecting mills for the manufa ture of cotton and woolen goods. The capital stock is placed at \$12,000, with privilege of increasing to \$300,000, and the incorporators are Messrs. J. F. Taylor, F. Harvey, Wm. C. Fields, D. Oettinger, Henry Tull, Louis Einstein, N. J. Rouse, J. A. McDaniel, E. R. Rouse, D. V. Dixon, Wm. A. LeRoque and others.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., February 17.

The local phosphate market has shown mewhat more activity during the week and there is a slightly better inquiry from out of town, as well as from foreign buyers. From the number of charters given below the phosphate industry is showing indications of greater development at all points of production. Advices from South Carolina are more encouraging, and both old and new companies on the Coosaw are now actively engaged in min-This renewal of activity is said to be due to reported advance in price of rock and an improvement in foreign demand. It is stated that the Coosaw Phosphate Co. has commenced operations in mining, and the Beaufort Phosphate Co. and Central Phosphate Co. have their dredges at work. Reports from the Florida field are very encouraging; prices are firmer, with an advancing tendency, and shipments for the present month are likely to be much larger than those of January last. In the Mount Pleasant district of the Tennessee phosphate belt operations are at present very active, all the crushers and washers of the companies being busy, and there is a good local as well as foreign demand. The phosphate charters reported last week in New York were as follows: Schooner J. W. Bigelow, Cartaret to Baltimore, at 95 ents; a British steamer, 1036 tons, Southern port to United Kingdom or Continent on private terms; a British steamer, 1353 tons, Tampa to Ghent at 20s., February: the Danish steamer Gallin, 1196 tons, Fernandina to Galatz and (or) Itrail at 18s. 6d., February-March: a British steamer, Coosaw to picked ports in United Kingdom at 14s., March-April; a French steamer, 2245 tons, Coosaw to St. Nazaire at 12s. 3d., April; British steamer Cheniston, 1304 tons, Coosaw to London at 16s., February, and an Austrian steamer, 1966 tons, Pensacola to Venice at 18s., February.

Fertilizer Ingredients

The volume of business in ammoniates has been moderate during the week and the demand for most descriptions has shown no expansion. There is, however, in local circles a good inquiry for tankage and dried blood, and the short supplies in packers' hands tend to keep valnes firm. Southern inquiry is moderate, and from Eastern buyers there is a fair demand. Sulphate of ammonia is firmly held and nitrate of soda is about steady.

The following table represents

prices current at this dat	e:	
Sulphate of ammonia (gas)	82 75	61
Nitrate of soda		@ 1 85
Blood		@
Hoof meal		(0)
Azotine (beef)		@
Tankage (concentrated)	1 55	a
Tankage (9 and 20)		and 10
Tankage (7 and 30)		@ 15 50
Fish (dry)	20 00	G -

Phosphate and Fertilizer Notes.

It is rumored that the Plant system contemplates erecting a phosphate elevator at Brunswick, Ga., on the new dock property they are now building on Academy creek in that city.

Messrs. Neblett & McDonnell, of Clarksville, Tenn., have formed a copartnership and will go extensively into the fertilizer business They will represent some of the best fertilizer firms in the country throughout the Clarksville tobacco district.

The Piedmont & Mount Airy Fertilizer Co. of Baltimore, which has acquired the buildings formerly occupied by the Campbell & Zell Co., of that city, is making a number of improvements. The large hoisting shears have been taken down and the wharf on which they stood will be covered.

The following domestic shipments of phosphate rock from the port of Charleston, S. C., were reported last week Schooner Mary Curtis for Richmond, Va., with 513 tons; schooner Gertrude Abbott for Cartaret, N. J., with 813 tons and schooner Warner Moore with 670 tons. The total domestic shipments from Charleston, S. C., from September 1, 1897, to February 11 amounted to 41,423 tons, against 42,783 tons last year.

It is stated that the Coosaw Mining Co., of Charleston, S. C., has resu operations in phosphate mining. This. however, is partially denied, as the company has only one dredge at work and this merely to fill an old contract for phosphate rock made some time ago. Later advices state that the company has two dredges at work, besides numerous flatboats, and the company's plant will be further increased in a short time

Twenty thousand acres of phosphate lands lying in Levy, Lafayette, Suwanee and Citrus counties, Florida, belonging to the Blue River Phosphate Co., were sold at public auction at Bronson, Fla., on the 9th inst. There were present at the sale Messrs, William Hocker and O. T. Green, of Ocala; E. Gauche, of Paris, France; Louis Adler, of New York, and C. W. White, of Citrus, Fla. Mr. White was the successful bidder, securing the property for \$60,000. The lands are said to be the richest phosphate lands in the

The shipments of phosphate rock fro the port of Fernandina, as reported by E. D. Lukenbill, for the month of January as follows: Steamer Atlantic fo Hamburg with 3465 tons, steamer Talis man for Boness with 2306 tons and Lackenby for Antwerp with 2655 tons, making a total of 8426 tons The shipments for the present month are estimated at 10,000 tons. The charter reported are schooner Tofa and bark Lina by Dunnellon Phosphate Co., and steamships Olaf Kyrre, Gallia and Ingram by H. A. Ford.

There is more activity at the moment in phosphate circles in South Carolina than usual, due, it is stated, to an advance in the price of rock and an improvement in the foreign demand. At Beaufort the New Central Phosphate Co., represented by Messrs, Alphonse Cajot, of Paris France; J. B. West, of London; H. M. Blonay, of New York, and J. M. Lang, of Savannah, commenced work on Monday last at the Farmers' phosphate mine near Beaufort. The Beaufort Phosphate Co, has two dredges working and 100 hands are picking rock on the Coo river

A meeting of prominent lumbermen was held in Montgomery, Ala., last week for the purpose of reorganizing the old Georgia and Alabama Lumbermen's Association for mutual protection and the advancement of the lumber industry in that section. Matters of interest to the lumber trade were discussed and the majority of those present agreed that there had been a great increase in business and stocks were being rapidly reduced. most prominent business disposed of was the advance in price of rift flooring on an average of about fifty cents per thous and feet. The convention adjourned to meet in Montgomery on the first Saturday in March

The output of coal in Kentucky in 1897 was greater than that of any oth except 1890. There were 3,283,762 tons

LUMBER.

mplete record of new mills and bu operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore, Office Manufacturers' Record, Baltimore, Md., February 17

There is a better feeling throughout the local lumber market and the volume of business in certain lines has shown con siderable expansion during the past week The movement in yellow pine has quick ened and the demand for air-dried lum ber is better. Boxmakers, planing mills and yardmen are now in the market and are buying more freely, while prices have shown a firmer tone. Receipts of yellow pine are moderate, owing to high winds in the bay, which has delayed con ments to a great extent. In kiln-dried North Carolina yellow pine prices are firm, with a good local, as well as for eign demand, and at the moment ship ments are active. White pine is in good request, with values steady and the mand improving. Cypress is quiet, with no urgent demand and values unchanged. In hardwoods there is a fair volume of trade reported. Local manufacturers are buying principally dry oak, and other ods are in light demand. There is a good foreign inquiry and shipments con tinue fair, although not as large as last

Charleston.

[From our own Correspondent.] Charleston, S. C., February 14.

Business during the past week in nearly every avenue of the lumber market has been fairly active and shipments of wood products are showing a decided improve The tone of the lumber market is ment. generally firm for all desirable stock and the demand has improved. Prices on Saturday were as follows: Merchantabl lumber, \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9.50 to \$13 for railroad, \$8 to \$11 for raft. Dock timber, \$4.50 to \$6.50; ship ping, \$8.50 to \$10.50. There is a good and for shingles and values are firm at \$4 to \$7 per thousand. Among the clearances for the past week the following vessels were reported: For New York, schooners Florence Randall, 540,000 feet of lumber; Edwin A. Gaskill, 235,000 feet: Humarock, 337,000 feet, and the barkentine E. S. Powell, 364,000 feet. The steamer Seminole, of the Clyde Line, took out 42.931 feet of lumber, and the Iroquois 15,816 feet. The sch David Beard cleared for Philadelphia with 500,000 feet of lumber; schooner Woodward Abrahams for Boston with 500,000 feet, and schooner J. W. Beland for the same port with 427,000 feet. The total shipments of lumber since Septem ber 1, 1897, amount to 22,370,365 feet oastwise and 559,000 feet foreign, mak ing a total of 22,929,365 feet, against 26,945,770 feet for the corresponding period last year. Among the charters last week was the schooner L. V. Beebe, 712 tons, from Charleston to Boston with crossties at 15 cents; coal out from Norfolk, 90 cents.

Savannah.

[From our own Correspondent.] Savannah, Ga., February 14.

A fairly active market for wood prod has ruled here during the past week and the demand for good lumber shows a material increase. From all milling sec tions along the various lines of railr of Southern Georgia reports regarding the lumber industry continue very favorable and the various mills do not by any means complain of a scarcity of orders.

The crosstie industry is improving, and he movement, while not so decided, is expected to show a greater volume of business later on. Prices for desirable umber are very firm, and for certain grades an advance is reported, stocks moderate and generally well asorted. During the past week the shipments from this port amounted to 278,192 feet, distributed as follows: New York. 682,587 feet of lumber; Baltimore, 378,-208 feet: Philadelphia, 568,000 feet of lumber, including 6665 crossties; Perth Amboy, 618,613 feet of lumber, and Pernambuco, 30,784 feet. Among the charters reported in New York last week were the following: A schooner from Savan nah to Bath, Me., with lumber at \$5, and schooner Edward P. Avery, 482 tons, from Savannah to New York with lum ber at \$4.50.

Mobile.

our own Correspondent.] Mobile, Ala., February 14. [From our

The movement of lumber and timber from this port during the past week has been more decided and the return of the activity shown last spring is making its appearance. The advices from foreign narkets are more favorable and the tim ber movement from this port is expected to be of better volume during the spring months. The London Timber Trades Journal of December 5, in its review of the market, says: "A spurt seems to have taken place in the f. o. b. market since the announcement that the engi neers' strike was over. sales at current prices have been made on the coast, and one of the leading agents. we hear, sold over 5000 standards during the past week. The business is still largely confined to the better-class stocks, as buyers do not see the force of paying tip-top prices for outside stocks as long as shippers of the highest class will ac cept the same figures as asked by their smaller neighbors. The wholesale mahogany trade has been quiet this week, there having been no public sales, but a fair amount of private business has been transacted at former sale rates," ocal shipments during the present week have been principally to Great Britain and Continental ports and aggregated over 1,500,000 feet of lumber and 50,217 feet of sawn timber. Prices are steady and unchanged, with sawn timber quoted at 10 to 101/4 cents per cubic foot, and hewn timber 121/2 cents per cubic foot,

Lumber Notes.

The Italian bark Giovanni cleared from Norfolk last week for Cadiz, Spain, with a cargo of 54,000 staves. This is the first time in many years that a full cargo of staves only has been cleared from this port.

The Texas Yellow Pine Co., at Waren, Texas, is now running only one of its mills regularly, but within the next thirty days both will be in operation on The company is said to have over 500,000 feet of yard stock, and orders are reported good.

The new saw mill of the Lake City Lumber Co. at Lake Charles, La., was completed last week and went into operon on the 7th inst. This mill is one of the largest and the plant one of the most complete in the South. Its capacity is 100,000 feet a day, with an average of 60,000 feet.

The saw mills at Beaumont, Texas, are ow well supplied with tie and timber bills, and it is stated that both sap and heart ties will likely advance \$1 per thousand at any time. A large number of inquiries are out for timbers, the total aggregating about 25,000,000, all points beyond the State.

The large saw mill of the Donalson Lumber Co., at Donalson, Ga., was en tirely destroyed by fire on the 30th ult. The loss is estimated at \$40,000, with no insurance. It is thought the company rebuild at a very early date. dry-kilns, planing mill, lumber sheds and their contents were saved.

The large saw mill which has been on erated by the W. T. Lott Lumber Co. at Duke, near Waycross, Ga., is to be moved to Coffee county, to a point near Douglas, early in March. The mill is a large one and is owned by the J. S. Bailey Lumber Co., which operates the McDonald mill and Douglass Railroad.

The Ether Lumber Co., of Montgoni ery county, North Carolina, was incorporated last week with a capital of \$5000. Its headquarters is at Ether. The incorporators are C. J. Cox, W. L. Frost, of Asheboro; W. J. Thompson, Haw River; G. G. Hendricks, J. B. Ward, J. R. Wall and J. E. Port, of Asheboro

The lumber shipments through the port of Sabine Pass, Texas, for January con sisted of ten cargoes, aggregating nearly 4,000,000 feet. The indications for an active business for the spring months are very favorable. On the 5th inst. there vere twelve vessels in port, and, in addition, between twenty and thirty are chartered to load.

At Bastrop, La., on the 5th inst., T. J. Spaulding, of Beauclair, Wis., closed no gotiations for three large groups of cypress brakes in Moorehouse and adjoining parishes. The deal was made, it is stated, for the Russell Lumber Co. of Chicago and Beauclair. It gives the corporation named possession of some of the finest timber tracts in the South.

The recent rise in the Tennessee river brought out large quantities of logs and other timber. The saw mills at Chattanooga, Tenn., have received large supplies. The Loomis & Hart Manufacturing Co. expects to receive 1,000,000 feet of logs and other mills full supplies. The demand for pine lumber is active, the output being shipped as fast as cut.

It is stated that A. W. McGregor, wner and operator of the Florence Stave Works, of Florence, Ala., has completed deal with the Standard Oil Co. whereby that corporation has secured the entire output of the factory for the year 1899. The output for the present year has already been sold to the Standard Oil Co. and the plant is now running at its full capacity, having been increased to three times its original capacity.

The Southern Lumber Manufacturers Association will meet in its eighth annual convention in Memphis, Tenn., on the 15th inst. Much business of importance to lumbermen is to come up for consideration and the convention will hear a report on the work of the "Yellow Pine Clearing-house," which the last convention created. This report will contain statisties showing the output for 1896-97 and the stock on hand January 1, 1898.

The Herrmann Saw Mill Co., of New York, through its agents in Winchester, Ky., last week sold to James Swann and Floyd Day its entire Kentucky river property, including its new saw-mill plant at Beattyville and the logs from large tracts of standing timber in Breathitt, Perry, Knob and Letcher counties. The consideration is said to be over \$200,000. The purchasers are men Mr. Swann is of the of prominence. banking firm of Inman, Swann & Co., of New York, and Mr. Day is principal owner of the Day Bros. Lumber Co.'s saw-mill plant on the Kentucky river and president of the Clay City Lumber & Stave Co.

MECHANICAL.

Grinding Machines and Countershafts

The new and improved line of Norton bench and floor grinding machines for mounting and operating of emery wheels is a most complete one in every respect. start up a new wheel at the higher speed.

Norton Company. The object of cone pulleys on a grinder is to give opportunity to change the number of revolutions of the wheels as they wear down, so that the same periphery rate may be maintained as nearly as possible, but it is not uncommon for a thoughtless operator to

NORTON EMERY WHEEL CO.

WORCESTER, MASS. U.S.A

NO. 6 MACHINE.

cating and the loose pulleys have oil-retaining devices that go far toward correcting the usual objections to these nec ssary parts. A frictional device has also been provided for the belt shippers to hold same in place in any position, and the shipper fingers are always in close proximity to the tight and loose pulleys to facilitate shifting the belt.

ther particulars and complete specifica tions on request.

Wire Belt Lacing.

The Globe composition wire belt lacing makes a smooth joint that is no thicker than any other part of the belt, conforms itself to the pulley and prevents lost con-

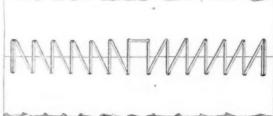


FIG. 1.

Other special features of the machinery roduced can be found fully described and joined. illustrated in the catalogue of the maker. cester, Mass. A special booklet devoted the belt will not crack or break where it to the Walker universal tool and cutter is fastened. grinder is also supplied on application.

tact of the belt to the pulley where it is

The wire lace will not cut through the the Norton Emery Wheel Co., of Wor- belt, the lace holes will not tear out, and

It will work successfully on any size

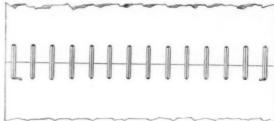
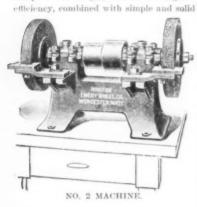


FIG 2

New Tenoning Machine.

The new tenoning machine shown in our illustration is the result of long experience in the construction of apparatus in this class. This machine is the culmi-

belt, or under any conditions a belt will run, and no strain possible on a belt in transmitting power will be sufficient to break the joint or cause it to work loose. For further particulars address the makers, Messrs. J. M. Hayden & Co., Grand



and most approved designs, the result of

an extended experience and the closest

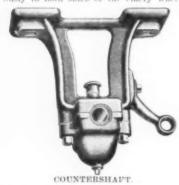
and most careful study of the require-

ments of the users of this class of goods.

It has been the endeavor to produce a

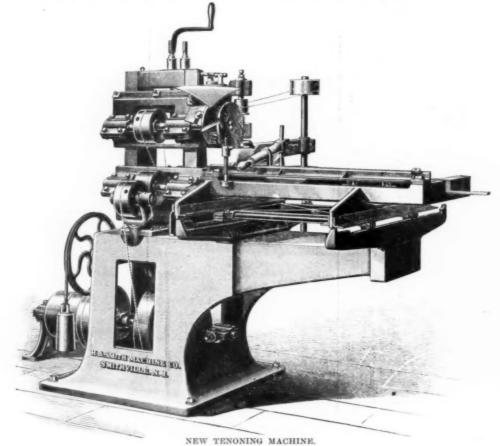
complete set of grinders of the highest

construction, handy to operate, all provided with safety rests, and each machine well proportioned to its specific purpose The special features of these machine include safety rests, adjusted simultane ously to both sides of the emery whe



dust-proof self-oiling bearings, adjustable box caps, extra-wide pulley of wide diameter, large bearings of large diameter and extra large concave flanges for holding the emery wheels. Grinding machines

The machines are made from the latest finstead of the slower, thus running the wheel much too fast and increasing the liability of accident. Therefore, with but one pulley, whenever the wheel is worn down sufficiently to require an increased number of revolutions, it can be transferred to a lighter machine adapted for that diameter. This system has decided nation of the valuable principles sug- Rapids, Mich.



advantages which are apparent to users.

In designing countershafts for the new line of grinders an effort was made to correct many faults in ordinary countershafts, particularly in the lubricating arwith single pulley is the style recom-mended whenever practicable by the leys. The boxes are entirely self-lubri-The maker will be pleased to supply fur-to be attached to the presses made by the

gested by the extended experience of its maker, the H. B. Smith Machine Co., of Smithville, N. J.

Woodworkers desirous of adding to their equipment a modern machine of

Dial Feed Presses.

The demand for presses for producing various articles from sheet metal at a high rate of speed has caused many de-

E. W. Bliss Co., of 137 Plymouth street, Brooklyn, N. Y. These automatic feeds are the double and single roll, the tube, the gravity, the push, the reciprocating and the dial. There are a number of styles of these automatic feeds and various ways of constructing them. The illustration presented gives three views of a small "Bliss" bench press.

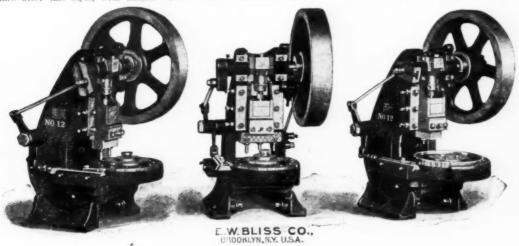
These three cuts illustrate the machine so well that a description of the method of operating the feed is hardly necessary. Machines after this style, with similar

of these presses may also be arranged to carry one, two or three punches, according to the nature of the work, so that one operator can accomplish from 80 to 250 operations per minute by simply dropping the shell to be reshaped, pierced or stamped into the holes of the dial as it revolves. The value of this great speed of production is enhanced by the entire absence of risk to the operator, who has no occasion whatever to put his hands between the nunches and dies. The safety device above mentioned, shown at the

one illustrated on these presses may also be supplied with other presses built by the Bliss Company, making this type of feed available for a very large range of work. Further particulars regarding the full line of "Bliss" presses, with illustrations, can be obtained by addressing the maker.

Iron Markets.

Cincinnati, O., February 12. There has been a fair buying move in a small way for nearly all kinds of iron

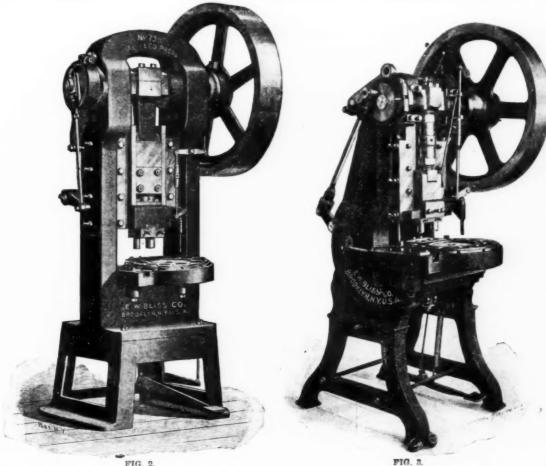


feeds, are extensively used in the manufacture of buttons, small burner parts, umbrella trimmings and other light staple articles. In many cases two or three punches and dies can be made to act simultaneously, performing one after another some of the necessary operations, and thus doubling or trebling the efficiency of the machine.

the clutch as to stop the slide on its downward stroke before it can do any harm in case some accident should prevent the dial from assuming its correct position The cam next to the frame of both presses actuates by means of lever connections. not visible in the cut, a knockout which pushes the article out of the dies back current quotations. Most of the furnaces

FIG. 1.

right of the presses, is so connected with during the past week. The contracts have been confined to buyers covering actual wants, and but little interest has been shown in Southern brands. The largest consumers seem to be waiting to ascertain whether fresh anxiety will be evinced on the part of Southern producers to load up with orders at less than



In Figs. 2 and 3 is shown another type of dial feed, to which is added a cam actuated bottom knockout and safety attachment. The mechanism for operating this type of feed is practically the same on both presses. The machine shown in Fig. 2 is, of course, for much heavier work than the one shown in Fig. 3. The slides

into the dial holes to receive a second or third operation as they move along. These two machines have been specially designed for the rapid and economical production of brass goods, lamp burners, watch and clock-case stampings, ferrules, oilcups and many other similar goods. Feeds and attachments similar to the

they can obtain for No. 2 foundry \$7.25, Birmingham basis, but buyers claim that there are still a few making iron of a satisfactory quality who continue to shade this price.

The attention of the iron trade has been centered on the large deals in Bessemer, and the hope is expressed that the advance will be followed by a better demand for foundry grades.

We quote for cash f. o. b. Cincinnati: We quote for cash f. o. b. Cincinnati:

Southern coke, No. 1 foundry \$9 75@\$10 9 75
Southern coke, No. 2 foundry \$9 50@\$9 75
Southern coke, No. 3 foundry \$9 25@\$9 45
Southern coke, Ro. 3 foundry \$9 25@\$9 45
Southern coke, Ro. 1 soft... \$9 50@\$9 00
Southern coke, No. 1 soft... \$9 50@\$9 75
Bolfont coke, No. 2 soft... \$9 50@\$1 9 75
Belfont coke, No. 1, Lake Sup. 11 50@\$1 15
Belfont coke, No. 2, Lake Sup. 10 50@\$10 75
Hanging Rock charcoal, No. 1. 14 50@\$15 50
Tennessee charcoal, No. 1. 12 50@\$13 00
Jackson Co. silvery, No. 1... 12 50@\$13 00
Standard Georgia car-wheel. 14 25@\$15 00
Standard Georgia car-wheel. 14 25@\$15 00

Pittsburg, Pa., February 12. The market for Bessemer pig received quite a stimulus during the early part of the week through the purchases of large tonnage made by several prominent interests. Prices have responded to this sudden call and are accordingly on a higher plane, with sales reported at the advanced figure. Foundry iron has shared in this somewhat, but the trans actions are not large and are scattered, Finished lines show a mild activity.

New York, N. Y., February 12. The business of the week has been very satisfactory in volume, though at no improvement in prices. All classes and grades of iron have participated in the sale, charcoal having been conspicuous

Many of the furnaces have booked orders so liberally that buyers will find themselves unable the coming week to secure some bargains available the past week. Some of the Lake Superior coke furnaces propose to mark up their prices in the immediate future, owing to the condition of their order books and the increased demand. In the South the leading producing company has orders booked for scattered deliveries twelve times their present stock. The phenomenal purhases of Bessemer pig by the large steel makers, aggregating approximately 120,-000 tons, have naturally advanced the price on Bessemer 50 cents per ton, and it is reasonable to expect further ad-

The Lake Superior charcoal iron mak ers, as indicated above, have had an ex-traordinary run of orders in the past week, and the extremely low figures made the past ten days in some large transactions cannot be repeated. The general conditions of the country seem to justify the belief that a marked improvement prevails in all branches of industry, and the evidence of ample means are on every hand during the past week clearly manifested by purchases on the part of Western and country banks of bonds and choice stocks. It is believed that the spring will find the country in unusual activity and that values on all products and commodities will rise to a higher plane. There seems to be no cloud in the commercial sky, and the general recuper ation and healthful development of the country is to be realized to the satisfac tion of all.

We quote for cash f. o. b. New York: No. 1 X Standard Alabama. \$10 75@ 11
No. 2 X standard Alabama. 10 50@ 10
No. 1 X lake ore coke Iron. 12 50@ 12
No. 2 X lake ore coke Iron. 12 00@ 12
No. 2 X lake ore coke Iron. 12 00@ 12
Niagara coke malleable. 12 00@ 12
Rome (Ga.) charcoal. 15 00@ 15
Hinkle L. S. Charcoal. 13 00@ 13

ROGERS, BROWN & CO.

read the advertising pages of the Manufacturers' Record carefully because they facturers' Record carefully because they are always sure to find something of value; it may be a special sale, or an opportunity for investment, or some new machinery, or some one looking for a location for a factory, or a thousand and one things advertised that may concern you. Every man ought to study newspapers, not simply glance over them, but examine in detail the Manufacturers' Record, for instance, and he will be sure to find something that can be made profitable in his business. In its news columns and in its advertising pages he will find matter that may prove invaluable in his business operations.

CONSTRUCTION EPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or sup e wanted, particulars of which will b und under head of "Machinery Wanted.

In correspondence relating to matters re-ported in this paper, it will be of advantage to all concerned if it is stated that the infor-mation was gained from the Manufacturers'

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors. It often occurs that the organization of a

ALABAMA.

Alexander-Gold Mines, Three new gold mines are to be developed near Alexander City. H. J. Cameron can probably give in-

formation.

Birmingham Mining.—Incorporated: The Robinson Mining Co., capital \$100,000, to buy, sell and improve mineral lands, to oper ate mines, erect shops and houses, etc. The incorporators are W. G. and J. B. Robinson. both of Rirmingham

both of Birmingham.

Rirmingham—Coal Mines, etc.—Incorporated: The Jefferson Coal & Coke Co., with a capital of \$30,000. This company has leased and is operating the properties of the Jefferson Coal & Railway Co. at Mary Lee. The stockholders are Henry S. Jenkins, of Baltimore; Gideon Boericke, of Philadelphia, and Alex. T. London, of Birmingham.

Birmingham—Steel Plant, etc.—It is stated that the Birmingham Rolling Mills is about to arrange for the construction of three ad-ditional steel furnaces at its plant, which would increase the capacity from 120 to 360 tons daily; John G. Caldwell, president.

Centreville Saw Mills, Hunnicutt & Neal, of Heffin, Ala, with of Heffin, Ala., will erect a large saw of salety noted. The plant will be low near Centreville, where the firm has chased a tract of timber land, and it cost about \$20,000.

Florence—Oil Mill.—C. W. Asheraft, of Opelika, Ala., and associates, of Atlanta, Ga., are arranging for the erection of a cottonseed-olf mill.

Florence Cutlery Factory.—The Bush League is negotiating relative to the es lishment of a cutlery factory.

Huntsville - Electric-light Plant. - The Huntsville Electric Co. will enlarge its plant, erecting new building, putting in new machinery, etc.

Huntsville—Cellulose Plant, Cotton-mill Supplies Factory, etc.—The Chamber of Commerce has a proposition for the establishment of a cellulose plant and will doubtless meet the terms offered and secure the enterprise. A plant for producing cotton-mill amounters such as bubbins, spools, etc. mill supplies, such as bobbins, spools, etc., will be established at once; machinery has

been secured. The Chamber of Commercian be addressed.

Huntsville-Cylindrical Cotton Compre Huntsvine-Cymurical Cotton Mills Co. has blaced order for machinery to double its slant for producing cylindrical cotton bales and for ginning.

Pledmont-Flour Mills.-J. H. Hebble is

Rock Mills-Cotton Mill.-The Wehadkee otton Mills will put in engine and bollet give 125 to 150 horse-power. Address F. Randle, secretary.*

Thomasville-Electric-light Plant, Cotto Thomasville—Electric-tight Flant, Cotton Gin and Grist Mill.—W. I. Waller, of Nich-olas, Ala., has purchased the Noble gin plant in Thomasville. He will put in a new cot-ton gin, grist-mill equipment and install an electric-light plant; machinery for the latter as been bought.

Tuscaloosa on which they will build a grain Tuscaloosa on which they will build a grain enter and flour mill.

Tuscaloosa-Cotton Mill.-J. D. Griffin, Memphis, Tenn., is said to contemplate establishing a cotton mill in Tuscaloosa.

Tuscaloosa—Brick Works.—J. D. Ruffer of Meridian, Miss., will establish brick works of 30,600 daily capacity.

Tuscaloosa—Steam Laundry.—H. A. Lind, f Piqua, Ohlo, will establish a steam laun-

ARKANSAS

Little Rock — Mercantile. — Incorporated: the Quinn Dry Goods Co., by Mary E. guinn, Joe P. Quinn, D. D. Quinn, Samuel dersman and Joseph Reidy. The capital

Warren — Woodworking Factory.—Shirey & Butler expect to add box machinery to their planing mill.*

FLORIDA.

De Land-Land Company,-Incorporated: The Forest Park Co., capital stock \$5000, for land improvement purposes, etc., by A. D. McBride, Will A. Allen, M. Davis, S. A. and others

Orlando - Electric-light Plant, Franchise or electric-light plant has been granted to the Peninsular Electric Light Co., compo of B. C. Abernathy and othe

Orlando-Electric-light Plant.—The Penin-ular Electric Light & Power Co., noted ast week as applying for franchise, is now in process of organization, and will bu plant at once. Bids will be wanted in and will build

Sanford-Fiber Factory.-The Tropica Sanford—Fiber Factory.—The Tropical Fiber Co., of Jacksonville, will remove his factory to Sanford; contract has been let for new buildings, wharf 400 feet long and other improvements to cost about \$50,000. Over 125 hands will be employed.

West Tampa-Water Works.—The city council has arranged for the Issuance of \$60,000 in bonds to construct water works, Address the mayor.

GEORGIA.

Atlanta—Water-power Development, etc.—
The court has granted a charter to Messrs.
Henry B. Smith, R. B. Smith and C. Elmer
Wilson, all of New York, as the Atlanta
Water Power Co., capital stock to be \$10,
000. This is the corporation (reported several weeks ago) which proposes using the
fall of the Chattahoochee river, eight miles
distant, to suppoly electric power to Atlanta distant, to supply electric power to Atlanta distant, to supply electric power to Atlanta and adjacent territory. Options have been secured on sixteen miles along either side of the stream, and machinery will be installed with a capacity to develop 11,000 horse-power. Col. H. H. Berry, of Gainesville, Ga., attorney for the company, can be ad-dressed.

Atlanta-Furnace Works.-Applicat een made for a charter for the Hawley been made for a charter for the Hawley Down Draft Furnace Co. (recently noted as to locate), capital stock being placed at \$150,000. The company will be a branch of the parent enterprise in Chicago, of which Charles E. Bleyer, of Chicago, is vice-pres-ident. About seventy-five men will be em-ployed in the plant at the start. For infor-mation address Charles E. Bleyer, care of Loke Smith & H. C. Peenles, Atlanta. Hoke Smith & H. C. Peeples, Atlanta.

Augusta-Knitting Mill.—The Belair Fac-tory Co., capital stock \$20,000, has been formed to establish the knitting mill noted

last week as projected by the Georgia Col-W. O. Boykin, president, be addressed.

Augusta-Hortleulturist Company,-Pro er J. Berekmans and others have incorpo ated the P. J. Berckmans Co., with capital nek of \$25,000, for hortleulturist purp

Brunswick—Phosphate Elevator.—It is ru-nored that the Plant system will build a shosphate elevator: H. B. Plant, president.

Brunswick-Wharves. - The Southern Railay Co. will build extensive wharves at runswick; Frank S. Gannon, general man-ger, Washington, D. C.

Donalsonville-Lumber Plant.-The De Ison Lumber Co. will rebuild its saw mill, ecently burned, putting up a plant to cost geomy burned, putting up a plaint to cost \$20,000, with circular-saw equipment, live rolls, log haul-ups, rift machines, steam jump saws, etc. New mill will have daily capacity of 75,000 feet of lumber.

Elberton-Water Works,—The city has awarded contract to G. J. Baldwin, of Sa-vannah, for the construction of water

Gainesville - Electric-light Plant. - Chr Webb is forming a company to establish plant for supplying homes with electricity.

Gainesville—Electric-light Plant,—Charle k. Webb will organize a company to instal in electric-light plant.

Griffin—Repair Shop.—H. C. Burr's Sons vill erect a bicycle repair shop.

Jesup-Foundry, etc.-The Jesup Machine Foundry Co. will erect an addition to its nt and add new machinery

Lindale—Cotton Mill.—The Massachusetts Mills in Georgia contemplate extending the nill and largely increasing the production augustus Lowell, of Boston, Mass., presi-

Meansville-Cotton Mill, etc.-J. M. Mea Meanwille—Cotton Mill, etc.—J. M. Means and W. A. Bates have incorporated the Meanwille Manufacturing Co., with capital stock of \$50,000, to erect and operate cotton glus, cotton mills, woolen mills, etc.

Montexuma—Water Works.—Joe Wilson has obtained permission from the city council for certain piping, etc., to form the basis of a water-works system to be developed.

Tate-Herndon Marble Co. will erect a w and larger marble mill.

Thomaston-Electric-light Plant,-The etablishment of a city electric-light plant is talked of. Address J. R. Tarwater, mayor.

Ashland—Steel Plant.—It is reported that the Ashland Steel Co, will add a rod mill to its plant at a cost of \$240,000 and construct 150 coke ovens.

Frankfort—Coal Company.—Incor The Lily Coal Co., capital stock \$25

Louisville-Box Factory.-Bell & Coggo hall Co. will build a \$10,000 box factory Louisville-Ice Factory.-F. & J. Walters

are adding a 10-ton ice machine to their nisville-Foundry, etc.-D. X. Murphy

& Bro. are preparing plans for finishing shops for the National Foundry & Machine Co.

Louisville-Clothing Factory.—J. M. Rob-inson, Norton & Co. will build a new fac-tory building, to be two stories high, 80x162 feet, with skylight 44x164 feet for light and ventilation, electricity as motive power and for lighting at night. John Hutchings is preparing plans. The firm will put in 390 machines and employ 600 operatives.

LOUISIANA.

Abbeville—Sugar Mills.—The Vermillion Sugar Co., with cash capital of \$500,000, has been organized and applied for charter, the chief mover in the enterprise being O. M. Nilson. The company will probably build three factories. Address O. M. Nilson, proprietor, Old Perry Plantation.

Alexandria-Saw Mills, etc.-Isaac Steph case and the contemporary of Menominee, Mich., contemplates the development of 400,000 acres of timber lands near Alexandria by the erection of saw mills, etc.

Crowley-Irrigation System, etc.-The Abbott-Duson Canal Co. has been incorporated, with capital stock of \$42,000, for the pur-pose of constructing a canal for irrigation purposes, etc. The directors are Miron Ab-bott, William W. Duson, Cornellus C. Du-son, Bernice M. Lambert, Martin D. Abbott and Celathiel Abbott, with Miron Abbott, president; Cornelius C. Duson, vice-presi-dent, and Bernice M. Lambert, secretary-treasurer. Address the president.

Crowley-Irrigation, Farm Cultivation, etc. The Watertown Farm & Irrigating Co., Lim The Watertown Farm & Frigating Co., Lamited, has been incorporated to construct canals for Irrigation purposes, conduct farms, etc., with capital stock of \$50,000; J. F. Shoemaker, president; Squire A. Pickett, vice-president, and John Green, secretary-treasurer. Address the last named.

treasurer. Address the last named.

Garland—Irrigation System, etc.—Messrs,
Lichtenstein & Hechinger, of New Orleans,
will construct an irrigation canal at Premeaux Landing, to be used by the Vermillon
Development Co. in connection with plant
already operating. About 50,000 acres of
rice lands will be irrigated. Address Messrs,
Lichtenstein & Hechinger at 843 Union
street, New Orleans.*

New Orleans—Grain Elevator—It is ru-

New Orleans-Grain Elevator.-It is ored that the Louisville & Nashville Rali-

road will build a grain elevator; J. G. Met-calfe, general manager, Louisville, Ky. Raceland—Sugar Mill.—C. S. Matthews intends increasing the capacity of his sugar mill by the addition of new machinery

Rayne—Sugar Mill.—A stock company will be formed, with capital of \$50,000, to build sugar mill of 15,000 pounds capacity per E. Daboval, mayor, can give infor

MARYLAND.

Baitimore-Navigable Canal.—A bill has een introduced in the legislature to incorbeen introduced in the legislature to incorporate the Baltimore, Curtis Bay & Annapolis Canal & Navigation Co. The company proposes to construct a canal four and one-half miles long from Curtis creek to the Severn river, thus providing a direct and short water route between Baltimore and Annapolis through the trucking district of Anne Arundel county. The use of any motive power is authorized in propelling boats along the canal. The canital stock is \$100. tive power is authorized in propelling boats along the canal. The capital stock is \$100,000. The incorporators are Messrs. Arthur M. Easter, James M. Easter, Alvin P. Kennedy, of Baltimore, and Peter Potee, Frank S. Revell, Elihu S. Riley and others. Address Arthur M. Easter.

Baltimore — Shoe Factory.—Incorporated:
The Metropole Shoe Manufacturing Co., by
Charles F. Green, Arthur L. Horner, Herbert E. Green, George A. Horner and W.
Booth Stanton, with a capital stock of \$12,900; purpose, to manufacture shoes.

Barton-Coal Mine.-The Barton Mining to, is opening a new coal vein.

Cumberland — Telephone System. — The Maryland, Pennsylvania & West Virginia Telephone Co. has obtained franchise for telephone system, etc. Cumberland — Electric-light Plant. — The

c-ambertaint - Electric-light Plant, - T city has awarded contract for the erecti of its \$34,000 electric-light plant to the A bos Construction & Electric Co., of Cle-land, O.

Hagerstown — Water-power Development and Electric Plant.—Powell Evans intends to construct a dam across the Potomac river near Hagerstown for the development of water-power and to erect an electric plant for transmission of power to factories, etc.

Hagerstown-Electric-light Plant.-P. B. Shaw, of Williamsport. Pa., has purchased the Evans electric-light plant for Christian W. Lynch and William Jennings, officers of W. Lynch and William Jennings, office:
the Hagerstown Electric Railway Co.
plant will be enlarged, and much new
chinery installed. Address Christian
Lynch, Hagerstown.

Rockville — Electric-light and Water Works.—The city will petition the legislature for authority to issue \$10,500 bonds for the construction of water works and electric-light plant. Address the mayor.

Washington — Gas Engines. — The Automatic Gas & Gasoline Engine Co., capital stock \$150,000, has been incorporated, with Isaac L. Johnson, president.

Washington, D. C .- Electric-light Plant .-The Hill Lighting Co., H. P. Hill, president has applied for permission to install gas engine and electric-lighting apparatus in the Hotel Johnson.

Hotel Johnson.

Washington-Pneumatic Tubes.—Chartered (in West Virginia): The Batchelior Pneumatic Co., with an authorized capital of \$1,000,000, for the purpose of constructing and operating pneumatic tubes for the transmission of letters, newspapers and other mails. The incorporators are Matthew C. Butler, James H. G. Martin and Myron M. Parker, of Washington; Eppa Hunton, of

ary

ruet

srs.

fet-

gar

per for-

ted:

ing

The

The

ient ends iver

tian

nt.-

rter

Warrenton, Va.; Birney C. Batchellor, of Philadelphia; John C. Calhoun and Fred S l'earson, of New York city.

Crystal Springs—Water Works,—The city has voted to arrange for the construction of a water-works system. Address the

Vicksburg-Chair Factory.-A. D. Martin of Chicago, has made a proposition for the establishment of a chair factory to employ 500 hands and the citizens will endeavor to meet the terms offered. Address Gen. E. S.

MISSOURI.

Baden—Car Works.—The St. Louis Car Co., of St. Louis, has made arrangements for the erection of a complete new carworks plant in Baden; plant will include a \$200,000 building, new equipment of machinery, ironworking and woodworking, boilers, engines, electrical machinery, etc. The plant will have an annual output of 1000 cars; T. Kling, general manager.

Cape Girardeau—Telephone Company.—In-orporated: The Jackson Telephone Co., apital stock \$2500, by Samuel Hitt and

Central City-Lead and Zine Mining.-The Central City—Lead and Zine Mining.—The Kenwood Mining Co., capital stock \$20,000, has been incorporated by E. J. Harkness, of Chicago, Ill.; Hugh McIndoe, of Joplin, Mo.; E. M. Sherman, of Galen, Mo., and others. The company has leased and will work the Ora-Myrtle lease of lead and zine

Joplin — Grain Company. — Incorporated: The Marshall & Michel Grain Co., capital stock \$10,000, by W. H. Marshall and others.

Kansas City—Furniture Factory.—The Abernathy Furniture Co., of Leavenworth, Kan., has about decided to erect a building five stories high, 65x180 feet, and equip it

five stories high, 65x150 feet, and equip it as a furniture factory.

Kansas City-Grain Elevator.—It is re-ported that the Chicago, Burlington & Kan-sas City Rallway is considering the con-struction of a grain elevator of probably 750,000 bushels capacity; H. Zimmerman, superintendent bridges and buildings, Han-olied. Mo

Nixa-Cannery.—Albert Goss, V. Stewart, R. M. Sims and others have incorporated the Nixa Canning Co., with capital stock of

St. Louis-Construction Company.-Incoro., capital stock \$25,000, by B. A. Aldrich,
M. Quigley and others.

St. Louis-Water Purifiers.-The St. Louis r Purifying Co., capital stock \$50,000, been incorporated by J. M. Nelson, Jr.,

St. Louis-Electrical Company,-Incorpor ated: The Moe & De Voll Incandescent Gas-light Co., capital stock \$250,000, by T. M. Moe, C. H. De Voll and H. E. Green.

St. Louis-Manufacturing Company.-In-corporated: The Thoener & Schulenburg Manufacturing Co., capital stock \$10,000, by Max Schulenburg and others.

St. Louis-Flooring Company.—Incorpora-ted: The Hardwood Flooring Co., capital stock \$5000, by J. D. Ochterbeck, George R. Manning and Ernest E. Veihl.

St. Louis — Manufacturing.—Incorporated: The Mississippi Valley Electrical & Manufacturing Co., capital stock \$100,000, by D. H. Lohse, Edward Buder, A. F. Ittner and ene Buder.

St. Louis—Mining.—Incorporated: The Tur-key Hill Mining & Realty Co., capital stock \$30,000, by Patrick O'Malley, J. H. Randall, W. Ratican and J. C. Muckermann.

St. Louis—Carriage Company.—Incorpora-ted: The Hoffman Carriage Co., capital stock \$30,000, by G. M. Hoffman, J. A. Rear-don, John Kammerling, J. F. Oswald and J.

St. Louis—Land Company.—Incorporated: The Club Land & Cattle Co., capital \$50,000, by A. C. Cassidy, E. B. Carver, W. L. Cas-sidy, T. A. Doerr, A. L. Keechled and A.

St. Louis—Candy Factory.—The Plow Candy Co. will build a new factory build-ing three stories high, 30x150 feet.

Trenton-Light and Power.-Incorporated:
The Trenton Light & Power Co., capital
stock \$30,000, by C. O. Hoffman, E. M.
Harber, W. O. Garvin and others.

Webb City—Lead and Zinc Mining.—O. C. Reed, J. W. McFadden, John N. Brownfield, W. H. Hollen, of Pittsburg, Pa., and others have organized a company to develop lead and zinc lands near Webb City. Address J. W. McFadden at Webb City, care of the Newland.

NORTH CAROLINA.

Charlotte—Foundry Enlarging.—The D.

Tompkins Co. is erecting an extensive ddition to its foundry; will put in new machinery, etc.

Charlotte-Gas Plant.-The plant pr Charlotte—Gas Plant.—The plant proposed by the Charlotte Electric Rallway, Light & Power Co., noted last week, is to have a holder of 100,000 feet capacity. Bids are being invited to equip this latter; E. D. Latta, president.*

-Lumber Mills.-The Ether Lumber Co. has been incorporated with a capital of \$5000, by C. J. Cox, W. L. Frost, of Asheboro; W. J. Thompson, of Haw River; G. G. Hendricks, J. B. Ward, J. R. Wall and J. E. Port, of Asheboro.

boro-Flour Mill.-The Guilford Roller Mill Co. (reported last week) has a capital stock of \$9000, with privilege of increasing to \$50,000; incorporators, John A. Hodgin, S. E. Hudson and James H. Davis.

Greensboro—Novelty Works.—The Gree boro Novelty Manufacturing Co. has b boro Novelty Manufacturing Co. has been incorporated with paid-up capital of \$10,000 and privilege of \$25,000, and J. Council Brown is president; C. N. McAdoo, secretary-treasurer, and Robert J. Allen, manager. The company will equip at once a plant for the manufacture of bedsprings, folding-spring cots, folding poultry crates, etc. Address the manager.

Greenville—Tobacco Warehouse.—O. L. loyner and G. B. Hughes will build a ware-louse 100x200 feet for handling tobacco, etc.

Hickory.—Pump Works.—Chartered: The Hatta-Martin Pump Co., with a capital of \$24,000, and right to increase to \$50,000. The incorporators are J. L. Latta, M. E. Thornton, E. C. Thornton, A. A. Shuford and E. L. Shuford; object, the manufacture and sale of pumps. and sale of pumps

High Point—Table Factory.—The High Point Table Co. will probably rebuild its factory in the spring.

factory in the spring.

Kinston—Cotton Mill.—The Kinston Cotton Mills has been incorporated, with capital stock of \$12,000, and privilege of increasing to \$300,000, its purpose being the erection and operation of cotton mills, etc.; incorporators, J. F. Taylor, F. Harvey, Wm. C. Fields, D. Oettinger and others. Address J. F. Taylor.

Newbern—Tobacco Warehouse.—Dr. N. H. Street will build a warehouse at a cost of bout \$10,000 thoroughly equipped for hand-

ling tobacco.

Newbern-Machine Works,—P. H. Pelletter, D. L. Roberts, J. B. Holland, F. T. Patterson, E. T. Gaskill and E. B. Dixon have formed a company and established a plant for making mattress-making machines invented by the Messrs. Gaskill and Dixon mentioned. Address E. T. Gaskill, South Front street, Newbern.

Front street, NewDern.
Rocky Mount-Electric-light Plant and Ice
Fractory.—The Rocky Mount Ice & Electric
Light Co. will be incorporated, with capital
stock of \$25,000, to erect an ice factory, and
later on the capital will be increased to \$40,one and an electric-light plant will be stalled. S. R. Carrington and L. H. & mons, of Durham, N. C., are interested. dress the last named.

Rocky Mount-Ice Factory,-Messrs. Worth Rocky Mount—Ice Factory.—Messrs.Worth & Hines, reported last week as to build an ice factory, will incorporate a \$12,000 stock company to erect and operate the proposed enterprise; plant to have a dally capacity of twelve tons. The incorporators will be John S. Armstrong and W. E. Worth, of Wilmington, N. C., and J. W. Hines, of Rocky Mount, N. C. Address the last named.

SOUTH CAROLINA.

en—Ice Factory.—William McCauley, L. Vandiver and Fred Kaiser are or-ding a stock company to erect an lee factory.

Bamberg — Electric-light Plant.—Applica ion has been made to the city council for n electric-lighting franchise. Address the

mayor.
Charleston—Cotton Factors.—Incorporated: The Dill-Ball Co., to conduct a general factorage and commission business, with a capital of \$15,000; J. T. Dill, president; J. A. Ball, secretary and treasurer.

Spartanburg — Bobbin Factory.— Eugene Carver is negotiating for the establishment of a large bobbin factory.

Spartanburg-Laundry.-The Spartan Inn will put in new machinery; contracts have een made.

Union—Cotton Mill.—The Union Cotton Mills, T. C. Duncan, president, has increased its capital stock from \$600,000 to \$1,100,000.

TENNESSEE.

Chattanooga—Sewer-pipe Works.—Dwight P. Montague, of Chattanooga, has pur-

chased the sewer-pipe plant of the Lookout Sewer Pipe Co. in Walker county, Georgia, for \$38,000.

Dayton-Furnace Blows In .- The Dayton al & Iron Co. has jut its No. 2 furn

Dayton-Water Works.-G. W. Pearson of Harriman, Tenn., is preparing plans and specifications for the city's proposed water works. Address J. A. Denton, city secre-

ander consideration the establishment of plant for electric lighting. Address tow-lerk. Dayton-Electric-light Plant,-The city has

Harriman-Woolen Mill.-George B. Durell negotiating for the establishme

Knoxville-Woodworking Factory .- Char ed: The Southern Coffin & Casket Co. horized capital stock \$5000, by I. B. Zeig-W. H. Geers, James Richey, E. F. ley and Tully R. Cormick.

Whey and Tully R. Cormick.

Knoxville — Water-power Development,
Electric Plant, etc.—Horace Van Deventer
is representing capitalists who have acquired from Charles J. Pogue, of Knoxville,
his rights for damming the Holston river
near Knoxville. The intention is to thoroughly develop the water-power and build
an electric plant to transmit power to factorics.

McMinnville - Tobacco Mountain Tobacco Works is erecting a fac-

Memphis—Cotton Mill.—Chartered: The Memphis Cotton Mill Co., capital stock \$120,000, by Austin Miller, Noland Fon-taine, Jas. E. Beasley, Louis Erb and

Memphis-Cottonseed-oil Mill.-E. G. Rich mond, of Chattanooga, Tenn., has decided to build a cottonseed-oil mill and is considering Memphis as a location for it.

Mt. Pleasant — Electric-light Plant. — A movement is on foot for the organization of a company to install an electric-light plant. Ambrose Lanler can give informa-

Nashville-Abattoir.-The sum of \$50,000 Nashville—Abattoir.—The sum of \$00,000 has been subscribed for the formation of a stock company which purposes building and operating a modern abattoir. J. F. and W. F. Singer can probably give information.

Scott County, etc.—Coal and Timber Lands.—It is stated that an English syndi-cate has completed the purchase of 30,000 acres of land from the Beaver Creek Coal Co., 10,000 acres from Beaver Fork Mining Co., Glen Mary mines and lands, 15,000 acre Co., Gien Mary mines and lands, 15,000 acres in Scott county, etc. The lands are timber and coal lands, and it is the intention of the new owners to develop thoroughly. H. B. Morehead, of Cincinnati, O., is said to be interested in the deal. Dr. W. F. Scott, of Somerset, Ky., can possibly give information.

Spring City—Coal-lands Development.— Maj. C. O. Godfrey, of Chattanooga, Tenn., is planning for the development of 200,000 acres of coal lands near Spring City.

Spring City—Coal Mines, etc.—The Union Land, Coal & Coke Co. is about to arrange for the thorough development of its coal mines near Spring City. F. G. Niederinghouse, St. Louis, Mo., is president.

Tuliahoma—Iron Foundry.—A movement s on foot for the establishment of an iron oundry; probably T. J. Cornish can give information.

Winchester—Telephone System.—S. M. Alexander, M. N. Whitaker and George E. Banks are endeavoring to form a company to establish telephone system.

THEXAS.

Bolivar—Channel and Dock.—The charter of the Bolivar Channel & Dock Co. has been filed for approval. The corporation has a capital of \$100,000, and its purpose is the provision of terminal facilities at Bolivar Point by the construction of channels, erection of docks, etc. Address company, care of L. P. Featherstone, of the Gulf & Interstate Railroad, Austin, Texas.

Brazoria—Sugar Mill.—For information regarding the proposed sugar mill noted last week, address Messrs. Rowe & Wilson.

Cleburne—Sewers.—The city council will make arrangements for the construction of sewers. A committee has been appointed to investigate the subject. Address the

snell-Ocher Beds.-Levi Votaw will

Corsicana—Oil Wells.—Incorporated: The Co-operative Oil Co., capital stock \$20,000, to prospect for, develop and use coal and other minerals and petroleum, and to build and own all necessary oil tanks, cars and pipes used in such business; incorporators,

Rufus Hardy, G. W. Hardy and J. L. Halbert. Address Mr. Halbert.

Fort Worth—Live Stock.—Incorporated: The Bulward Live Stock Co., capital stock \$10,000, by Lou Fowler, C. R. Debord and

Galveston-Mercantile.-Marx & Blum, Incorporated, filed charter, with capital ste \$150,000; incorporators: I. H. Kempner, Marx, Aaron Blum, Charles Frenkel a Julius Markowitz.

McKinney-Water Works,-The city will McKinney—water Works.—The city will issue bonds, as stated recently, for the con-struction of water works; bonds to amount to \$30,000. It is proposed to have a stand-pipe 100 feet high, with 20-foot base, four or five miles of piping, artesian wells for supply, engines, pumps, etc. Plans and specifications are now being prepared and when they are completed it will be decided Plans and whether the city build the plant by labor or ask for bids on its complete construction. For information address J. M. Pearson,

Port Arthur—Grain Elevator.—The Kan-sas City, Pittsburg & Gulf Railway's new grain elevator, noted last week, will have a capacity of 600,000 bushels. Bids are now being received and the plant is to be com-pleted in June; Robert Gillham, general manager, Kansas City, Mo.*

San Angelo—Electric and Ice Plant.—Char-ered: The San Angelo Ice & Power Co., apital stock \$30,000, by George Bond, Geo. E. Webb, C. H. Powell and others. The purpose of this corporation is to manufacture and sell ice and provide cold storage and to manufacture and supply electric light, heat and motor-power.

Seguin - Electric-light Plant.-The city council contemplates the purchase of the Holmes water works and the addition to same of an electric plant for public and pri-vate use. Address L. Zorn, mayor.

Sherman—Mercantile.—Incorporated: The Birge-Forbes Co., capital stock \$50,000, for the purchase and sale of agricultural and farm products; incorporators: Thos. Forbes, Jr., N. B. Birge and J. F. Holt.

Sulphur Springs—Cotton and Woolen Mill. The proposed company, noted last week, will be known as the Texas Woolen & Cot-ton Mills Co., capital stock \$50,000. Ad-dress W. L. McDaniel.

Winsboro-Electric Plant.—Incorporated: he Winsboro Electric Light & Power Co., apital stock \$3000, by R. G. Andrews, C. f. Morris, W. T. Whiteman and Manton

VIRGINIA.

Danville — Bed-springs Factory.—W. M. Holmes and R. M. Murdoch (address care of Hotel Burton) are endeavoring to form a company to establish a bed-spring factory.

Fredericksburg—Granite Works.—A. D. Young, of Barre, Vt., and associates have bought the Fredericksburg Granite Works and will improve and operate same.

Newport News—Bridges, etc.—The mayor has recommended the construction of several bridges, to cost probably \$20,000. Address W. A. Post, mayor.

Newport News-Pler-head.—The Newporkews Shipbuilding & Dry Dock Co. woulld a new pler-head.

Newport News - Foundry. - Thompson, Chapman & Co. have leased and will oper-ate the foundry at Virginia avenue and Twenty-fourth street. J. T. Thompson, A. E. Chapman and J. S. Milne, all of New York city, compose the company

Norfolk-Mucliage Factory.—Willard & McNair will enlarge and extend the operations of the Chicora Mills, manufacturing mucilage, paste, etc.

Norfolk—Silk Mills.—It is stated that Bar-ton Myers is negotiating with New Jersey firms for the removal of silk mills to Norfolk.

Nottoway—Woodworking Factory, etc.— D. F. Neuman will rebuild his burned grist nill and spoke factory.

Roanoke - Printing Plant, - The Stone Printing Co. will enlarge its plant and put

Staunton—Gas Plant.—Henry Marquand, L. C. Harris and R. D. Apperson have ap-plied to the city for franchise to erect a gas plant to furnish light, heat and power.

WEST VIRGINIA.

Bluefield-Mercantile.-The Bluefield Hard-Blueneid—Mercanthe.—The Blueneid Hard are Co. has been incorporated by C. B ancock, J. W. Ruff, R. W. Oakley and J. McNutt, of Bluefield, and E. L. Bell, of ewisburg. The authorized capital is

Charleston — Asphait Mining. — Incorporated: The Brunswick Asphalt Co. by C. M Alderson, T. S. Clarke, H. B. Black and T

XUM

D. B. Stewart, of Charleston, and W. B. Ball, of Chicago, to do a general mining business. The capital is privileged at \$300,000.

Charleston—Brake Company,—Chartered: The Doremus Brake & Coaster Co., capital stock \$500, with privilege of increasing \$500,000. E. L. Squire and others are the orators.

McMechen -- Road Improvements. -- The county of Marshall will vote March 5 on an expenditure of \$100,000 for macadamizads. Address county clerk

Morgantown-Oil Wells.-J. W. Dawson of Karnes City, Pa., has leased and will develop for oil 1800 acres of land near Mor

Piedmont-Coal Mine,-Montgomery & re making an opening in the original Kelly coal mines.

edmont—Coal Mines.—A. B. Shaw, on, Md., is opening a coal vein n

Waverly—Oll Wells,—Chartered: The Rose oil Co., with a capital of \$14,000, and priv Pege of Increasing to \$100,000, by R. H Rose, W. J. Rodgers, A. R. Rolston, C. P Ross and M. S. Gans.

Wheeling.—Incorporated: E. S. Dinger o., with a capital of \$500, and privilege of necessing to \$50,000, by E. S. Dinger, N. Bailey, M. A. Sampson, M. L. Bailey and M. Bailey.

Construction Company. Wheeling — Construction Company. — The W. W. Wood Co. has been incorporated to conduct a general contracting business, with W. W. Wood as president and Charles A. Wood, secretary; office at 2925 Chapiline

Giddings, Texas.—Courthouse; loss \$15, 00. Address county clerk.

High Point, N. C .- Table factory of E. D

Jackson, Tenn.—Cotton compress of D. P. testor, of Mobile, Ala.; loss \$25,000.

Louisville, Ky.—T. C. Caumisser's br factory; loss \$30,000.

Nixon, Ga.-Cotton gin of G. W. Lo Sparta, Ga.-Gin of John M. Jones

Unionville, Md.-Shingle mill of Hiram

Winchester, Va.—Woolen mill of Kerr, Barr & Walter; loss \$10,000.

BUILDING NOTES.

Addirsville, Ga.—Stores.—T. J. Bensor vill erect a store building; D. W. Louder nilk will erect a store building.

Alexandria, La.—Hotel.—The Business ten's League is furthering a project for the rection of a \$30,000 hotel. Address J. W.

Austin, Texas-Academy Buildings,-Th Texas Academy of Science will erect a new wing to its buildings to cost about \$50,000.

Baltimore, Md.—Medical Buildings.—Geo.

A. Archer is completing plans for the procosed medical buildings for Johns Hopkins University; structure to be of brick, shaped, 100x110, 50x50; have fully-equipp

Baltimore, Md. — Dwellings. — James A. Griffin will erect thirty-four two-story brick

Barnesville, Ga.—Church.—M. E. Church ill expend \$8000 in remodeling church uiding. Address R. G. Matthews. building.

Birmingham, Ala.—Home Buildings.— Mercy Home has purchased site 100x240 feei in dimension for the crection of a building Address Mrs. C. B. Spencer, president.

Birmingham, Ala,—Theater,—It is re-ported that a \$600,000 theater will be erected, R. H. Thomas can give informa-

Centreville, Ala.-Bank Building.-Bibl Savings Bank will soon advertise for n the erection of a bank and hotel

Charleston, W. Va.-Business Building. t narieston, W. Va.—Business Building.— C. C. Lewis will erect a business building five stories high, 42x140 feet, of slow-burn-ing construction, after plans by Yost & Packard, of Columbus, Ohio, and Harrison Albright, of Charleston,

Charlotte, N. C.—Cottages.—Capt. W. B. Ryder will build five two-story houses.

Charlotte, N. C.—Residences.—W. B. Ryder has let contract to J. C. Herring for the erection of five residences

Clarksville, Tenn. — Market-house. — The city will ask for estimates on erection of a market-house. Address Dr. N. L. Wor-thington, chairman of committee.

Cumberland, Md.-Hotel,-John Jones will

build a 20-room frame hotel; will ask for bids immediately.

Danville, Va.—Masonic Temple.—Roman Eagle Lodge, A. F. & A. O. M., has instructed its board of trustees to secure plans and specifications for a \$50,000 temple. Address secretary lodge named.

Elgin, Texas—School.—Contract let to L. Mauer & Co., of La Grange, at \$7200 for rection of schoolhouse.

Hampton, S. C.—Hall Building.—Alumni ssociation of Furman University will erect building. Address Rev. R. A. Sublett.

Indianola, Miss.—Courthouse,—Andrew J. Bryan & Co., of Atlanta, Ga., have prepared plans and specifications for the proposed courthouse for Sunflower county. Address county clerk.

Joplin, Mo.—Association Building.—There is talk of the erection of a Y. M. C. A. building. Address the secretary.

Kansas City, Mo.—Warehouse.—The Chi ago, Burlington & Kansas City Rallway roposes to build a freight warehouse; H superintendent bridges and uildings, Hannibal, Mo.

Knoxville, Tenn.—Residence.—I. L. Ford will erect a \$5000 residence.

Knoxville, Tenn.—University Building The University of Tennessee's new by lngs, noted last week, will include mech cal department building, to cost from \$ 000 to \$15,000, to cover 9000 feet of f and contain woodworking shops lectrical, hydraulic and steam laboratories mall iron and brass foundry, etc. Part of his machinery has been secured, but en-tines, boilers and foundry equipment will be wanted; Chas. W. Dabney, president.

Loch Earn, Md.—College Buildings.—Six new buildings will be erected at Loch Earn for college purposes. Address Rev. John R. Slattery, president Epiphany Apostolic Col-lege, Walbrook, Baltimore, Md.

Louisville, Ky.—Dwellings.—Dodd & Cobb have prepared plans for three residences for C. C. Bickel to cost \$7500 each; A. Hallenburg has made plans for two reside G. Ffau to cost \$5000 each.

Louisville, Ky.—Dwelling.—Mat. O'Doh y will erect a dwelling to cost \$5000.

Louisville, Ky.—Barn, etc.—Clark & Loomis have prepared plans for a \$10,000 barn for Mrs. Henning. J. J. Gaffney has prepared plans for three residences to cost

Louisville, Ky,—Warehouse,—D. X hy & Bro. have prepared plans for 50-foot warehouse for the America

Marion, S. C.—Dwellings.—Mrs. W. C. 'owers and Mrs. S. A. Durham will each illd a residence

New Orleans, La.—Public Building.—A \$10,000 stock company is being organized to erect a store and hall building. Address

w Orleans, La.— Engine-house.— The will build an engine-house to cost 5. Address the mayor. New

Norfolk, Va.—Engine-house.—The city will utild an engine-house at a cost of probably 8000. Address the mayor. SSHID.

Norfolk, Va.—Bank Building.—The Citi-zens' Bank continues to consider plans for its new building; structure will have either seven or nine stories, five of which are now built. Address G. M. Serpell.

ortsmouth, Va.—Residences.—W. S. John, of Deep Creek, Va., will build six resides in Portsmouth (at Park View); Mrs. G. Grant will build a residence; John Laycock will erect a dwelling.

w. Laycock will erect a dweiling.
Raleigh, N. C.—Dormitory, etc.—The directors of the Deaf and Dumb Institute have accepted the plans and specifications of Frank P. Milburn, of Charlotte, N. C., for the proposed dormitory and auditorium, which is to cost about \$22,000. Contract will be awarded March 14 and bids are instituted. Bids from North Carolina contractors. rited. Bids from North Carolina contractors only will be considered. Ac of Deaf and Dumb Institute. Address directors

Richmond, Va.—Penitentiary.—The legis-lature has passed a bill appropriating \$150,-000 to enlarge the State penitentiary. Address J. Hoge Tyler, governor.

Savannah, Ga.—Cathedral.—The burned Cathedral of St. John the Baptist will be rebuilt in the near future; probably about \$100,000 or more will be expended on the new structure. Address Rev. Fr. Kelley,

Mo.-Theater.-Samuel Gu ertz and Manion Bros. have arranged for the erection of a \$25,000 theater and pa-

Terrell, Texas—Church.—It is probable that a \$20,000 church will be built. Address paster of the Methodist Church.

Thomas, W. Va.—Dwellings.—W. A. Lil-ter, Keyser, W. Va., will build sixty cot-tages at Thomas and Coketon.

Troy. Ala,-Courthouse.-The

Troy, Ala.—Courthouse.—The commissioners of Pike county have accepted plans and specifications by R. L. Jones, of Atlanta, Ga., for the proposed \$10,000 courthouse.

Washington, D. C.—Apartment-house.—Appleton P. Clark, Jr., is preparing plans for an apartment-house eight stories high for Christian Heurich; structure to be of brick and iron, completely fireproof, Turkish and Russian bath equipments, bowling-alleys, hall, etc., and will cost about \$250,000.

\$250,000.

Washington, D. C.—Dwellings, etc.—Wm.
L. McClure will erect twenty-six dwellings, after plans by N. T. Haller, to cost \$117,000; the structures each to have eight rooms and bath, two stories, heating furnace, etc.

Wm. I. McClure will erect a three-story residence, to have cabinet mantels, tile bathrooms, electric fixtures, furnace heat, etc. R. W. Walker & Son will erect five houses, to have hot-water heat, to cost about \$25,000. bout \$25,000.

Wheeling, W. Va.—Hotel.—It is reported that F. Leiner will prepare plans for a hotel to be built, possibly by C. E. Van Keuren. Winterville, N. C.—Church.—G. W. Parker has contract to build a church for the Mis-

ionary Baptists.

RAILROAD CONSTRUCTION.

Railways.

Annapolis, Md.—The Washington, Annapolis & Chesapeake Raifroad Co. has been incorporated by George S. Chase, Edward H. Way and others to build a line from Washington to Annapolis; also to a point n Chesapeake bay in Calvert county,

Md.—Residents of several Baltimore, Md.—Residents of several towns in Baltimore county are negotiating with the Consolidated Railroad Co, for an tion of its trolley system from Town to Lutherville and Timonium.
Perin is president of the company.

Baltimore, Md.-Surveys have been Baltimore, Md.—Surveys have been completed for the branch of the Western Mary land Raliroad to Altenwald. It will be about fifteen miles in length, according to the corrected survey. John M. Hood, at Baltimore, is president of the company.

Battimore, is president of the company.

Bentonville, Ark.—Edwin Massa and others, of St. Louis, Mo., have made a proposition to the business men to build a rail-road from Bentonville to a connection with the Kansas City, Pittsburg & Gulf Rail-road, to be twenty-nine miles in length. It is understood that the promoters represent the Gulf, Arkansas & Northwestern Rail-road Co. recently incorporated by J. M. road Co., recently incorporated by J. Bohart and others, of Bentonville. Castle Ferry, Va.—A number of resid

of Hanover county are agitating a railroad line from Castle Ferry, on the Panunke river, to Richmond. Among those inter-ested are John H. Tomlin and George W.

Claxton, Ga.-It is reported that the bush ess men of the town are promoting a rail-oad between Claxton and Glenville.

Dover, N. C.-The Goldsboro Lumber Co. which is constructing the Dover & South-bound Rallroad, advises the Manufacturers' Record that about one-half of this line is completed. It is to be about forty miles ong in all.

El Paso, Texas.—It is reported that the New Mexico Coal & Rallroad Co. has begun laying track on the El Paso & Northeastern Rallrond and that this work has been com-pleted to the New Mexico line, George S. Good & Co. (temporary address El Paso, Texas), are contractors.

Elrod, N. C.—The branch of the Atlantic onst Line between Elrod and Ashpole has been completed eleven miles. It is under-stood that it is to be extended to Hub, N. C., eleven miles further, John R. at Wilmington, N. C., is general mar Kenly

Fitzgerald, Ga.-The Dooly Southern Rail ad Co. is considering an extension of its distance of eighteen miles to Fitz gerald. This road is controlled by the Parrott Lumber Co., of Atlanta.

Fort Worth, Texas.—Surveys have commenced on the proposed railroad from Fort Worth to Throckmorton, Texas, which is being promoted by the Fort Worth & Northwestern Railroad Co. Hon. B. B. Paddock. of Fort Worth, is one of the directors of

the company.

Jacksboro, Texas.—It is stated that the extension of the Chicago, Rock Island & Texas Railroad from Bridgeport to Jacksboro, a distance of twenty miles, has been arranged. R. R. Cable, president, may be addressed at Chicago, III.

Mobile, Ala,-The Mobile & Ohio Railroad tie, An.—The Mobile & Ohlo Kain t is reported, has begun work o td in the suburbs to be eight mile . It is intended as a belt line. J at Mobile, is general manager of

Monterey. Tenn.-It is again reported that Monterey, Tenn.—It is again reported that the Nashville & Knoxville Railroad Co. lat to build its line between Monterey, its pres-ent terminus, and Glen Mary, forty miles distant, to connect with the Cincinnati Southern. A. J. Crawford, at Terre Haute, Ind., is president of the company.

Natchez, Miss.—The surveys for the Nat-chez & Gulfport Railroad, which is to be an extension of the Gulf & Ship Island from Hattiesburg, Miss., to Natchez, have been completed. The entire line will be 240 miles in length. Charles Babbitt is chief

Natchez, Miss.-It is stated that a Natchez, Miss.—It is stated that a company is being formed to build a railroad line from Natchez to Southwest Pass, on the Guif of Mexico, in Louisiana, passing through Crowley and Opelousas. La. The total length of the line is estimated at 176 miles. Among those interested is Thomas H. Lewis, of Opelousas.

M. Lewis, of Opelousus.

Norfolk, Va.—It is reported that the Chesapeake & Ohio Railroad Co. is to take possession of the property along the Norfolk water front, which it owns, and intends constructing terminals during the present year. It is also reported that this company may purchase the Norfolk, Willoughby Spit & Old Point Railroad, and utilize it for an entrance into Norfolk. Decatur Axtell, at Richard Va. is the president. Richmond, Va., is vice-president

Norfolk, Va.-It is stated that H. L. Page and others contemplate constructing other electric line to Ocean View which will be about seven miles long.

Norfolk, Va.—The Chesapeake Transit Co. has been formed by W. H. Ashton, Marion Hardy and others to build a railroad through Norfolk county from Chesapeake bay to the

Obion, Tenn.-W. B. Southgate, engin Obion, Tenn.—W. B. Southgate, engineer of the proposed railroad between Obion and Tiptonville, states that it will be an electric line twenty-five miles long. Surveys are now being made. About eight miles will be built on pile trestle work, as the road will cross a lake. W. M. Wilson, of Obion, is president of the company, and J. H. McDowell, of Union City, Tenn., is treasurer.

Dowell, of Union City, Tenn., is treasurer. Petersburg, Va.—It is stated that a contract has been signed with the Colonial Construction Co. to build the railroad between Petersburg and Ridgeway, N. C., on the Seaboard Air Line, which is being promoted by the Richmond, Petersburg & Carolina Railroad Co., of which De Witt Smith, of 50 Broadway, New York, is president.

Pinebloom, Ga.—The Pinebloom, gerald & Valdosta Railroad has been deted a distance of fifty-nine miles, and is being extended to Valdosta, Ga. The Gray

being extended to Valdosta, Ga. The Gray Lumber Co., at Pinebloom, is one of the principal promoters of the enterprise. Portsmouth, Va.—Work has commenced upon the railroad line of the Portsmouth, Pig Point & Newport News Company be-tween Portsmouth and Pig Point Henry Hirn, of Portsmouth, is president of the

company.

Raleigh, N. C.—The railroad proposed between Raleigh and Lillington in Harnett county is to be known as the Cape Fear & Northern Railway. It will connect with the Cape Fear & Yadkin Valley Railroad and will run by the way of Holly Springs, N. C. G. Benton Alford, of Holly Springs, is one of the prome This is a s road from the one being promoted b A. Mills and others, of Raleigh, in th

Raleigh, N. C .- The railroad being pro-Raleigh, N. C.—The railroad being promoted by John A. Mills has been chartered under the title of the Raleigh, & Cape Fear Railway. Among those interested are W. J. Upchurch, as well as Mr. Mills, of Raleigh, and T. B. Upchurch, of Carthage, N. C. The estimated distance is thirty-five miles, and it is stated that sixteen miles are to be built at once. The company is capitalized at \$200,000, and it is reported that the Southern Railway Co. will take its proposed bond issue. its proposed bond Issue.

Richmond, Va.—The Virginia Central Railroad Co. has been formed by Henry Fairfax, John F. Ryan, George W. Settle and others to build a railroad from a point on the Potonac river through Rappahan-nock, Culpeper and Page counties.

Rosenburg, Texas.—Noah Allen, of Gal-veston; W. N. Worthington, of Rosenburg, and others are forming a railroad company to build the proposed railroad from Rosen-burg to Damon Mound, a distance of twenty miles. The company is termed the Rose burg, Damon Mound & Gulf Railroad Co.

Valdosta, Ga.-The Valdosta & Albany

ıt.

he 76

Railroad Co, has been chartered to build a line between the points named, a distance of eighty miles. The route is by way of Moultrie, Ga.

Moultrie, Ga.

Washington, D. C.—A bill is pending in the Maryland legislature to incorporate the National Park, Silver Springs & Hyattsville Railroad Co., which proposes constructing a line from a point on Rock creek, in Montgomery county, to Hyattsville, Md., and possibly branch lines. Among those interested are J. H. Ralston, Washington Loan & Trust Building, Washington, D. C., and Richard Martin, Jr., of Baltimore.

Washington, D. C.—A bill is pending in

Washington, D. C.—A bill is pending in Congress to incorporate the Washington Terminal Co. for the purpose of constructing the proposed union station and providing terminal tracks for the railroads entering the city from the South. Frank S. Gannon, vice-president Southern Railway Co., park by addressed. may be addressed.

Street Railways.

Baltimore, Md.—The City Passenger Rall-way Co. has begun the work of changing its Gay-street and Madison-avenue divisions for the use of electric motors. It is reported that the company will build an extension of about four miles to Roland Park in the suburbs. Walter S. Franklin is president of the company. urbs. Walte

Charlotte, N. C.—The Charlotte Railroad Co. has secured permission from the city to extend its trolley line, E. D. Latta is president of the company.

St. Louis, Mo.-A charter has been granted the North & South Street Railroad Co., of which John H. Blessing is president.

St. Louis, Mo.—The Broadway Cable Line is to be rebuilt for the use of electric mo-tors. Robert McCulloch is general manager

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find Just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machiner; ranufacturers throughout the country. The MANUFACTURERS' REC-ORD has received during the week the following particulars as to machinery that is wanted.

Barrel Machinery. - See "Woodworking

Boller and Engine - See "Holsting Appa

Boiler and Engine.—The Wehadkee Cotton Mills, Rock Mills, Ala., asks bids on boiler and engine to furnish 125 to 150 horse-power; not decided whether will buy new or second-hand machinery. Address F. P. Randle, second-

Randle, secretary.

Boiler, Pump, etc.—The city of Halletts-ville, Texas, will receive bids until March 10 for the furnishing of a 70-horse-power tubular boiler, hot-water pump, steam fit-tings, etc. Full specifications furnished on ept of \$1. Address W. A. Main, s

Rollers .- Marbury Lumber Co., Box Ala., is in the market for two steel tubular boilers, sixteen feet long, of standard cir-

Boilers and Engine.-The University of Tennessee, Knoxville, Tenn., will want boilers, engine, foundry equipment, etc.; Chas. W. Dabney, president.

Boilers and Engine.—Hill, Jones & Co., Roanoke, Ala., are in the market for a 150-horse-power Corliss engine and boilers: horse-power Corliss engine a second-hand machinery will do.

Bollers and Engines.—George R. Dunn, Wytheville, Va., wants good steam pump, with engine and boller; also 26-horse-power and 20-horse-power engine in c tion with washing plant; second-hand will

Building Material. — Charles McKnight, Calro, W. Va., will receive bids for lumber and other building materials for three-story 50-room hotel.

Canal Construction.—Lichtenstein & Hech-luger, 843 Union street, New Orleans, La., want bids for building canal, including ex-cavation of 200,000 cubic yards. Levels and other information furnished on application.

sed-air Machinery. - See "Hy draulic Machinery.

Cooking Apparatus.—J. J. Lafferty, Richmond, Va., wants full description and prices on cooking range, with water-back, etc.

Cotton-mill Machinery.—Brooks Manufac-turing Co., Greers, S. C., wants prices on butting machinery.

Distillery.-R. L. Pilcher, Dothan, Ala., in the market for a grain distillery.

Dry-kilns.-See "Woodworking Machin-

Electrical-heating Equipment.—The Piedmont Clothing Manufacturing Co., Paul Chatham, secretary, 403 South Tryon street, Charlotte, N. C., wants information of tailors' Irons (sixteen to twenty-four pounds), with attachment for heating by electricity; also wants cloth cutter, operated by electricity. tricity.

Electric-light Plant.—See "Water-works and Light Plant."

Electric-light Plant.—The Peninsular Electric Light & Power Co. will want bids on erection of electric plant, including 100-horse-power engine and boiler, wire, electrical machinery, etc. Address company, care of B. C. Abernathy, Orlando, Fla.

Elevator.—The Kansas City, Pittsburg & Gulf Raliway, Robert Gillham, manager, Kansas City, Mo., is now receiving bids for the construction of a 600,000-bushel grain

Engines .- See "Hoisting Apparatus."

Exhaust Fans.—Collins Co., Pennsboro, W. Va., is in the market for 48-inch exhaust

Foundry Equipment.—The University of Tennessee will want foundry equipment; Chas, W. Dabney, president, Knoxville,

Tenn.
Furniture for Courthouse.—Building committee of new courthouse, Anderson, S. C., will open bids March 15 for supplying seats, office furniture, judge's stand, vault fixtures, etc. Address W. P. Snellgrove and J. D. Maxwell.

J. D. Maxwell.
Gas Plant.—The Charlotte Electric Railway. Light & Power Co., Charlotte, N. C., invites bids on the construction of a gasholder (telescope) with capacity of 100,000 feet. Address E. D. Latta, president.

Heating Apparatus.—The University of Tennessee, Knoxville, Tenn., is putting in a great deal of steam-heating apparatus this summer; Chas. W. Dabney, president.

Hoisting Apparatus.-The Dessau Co., 37 niden Lane, New York city, wants to buy Winze holst, size 4x6, double engines; so holsting engine, 8x10, double engines.

Holsting Apparatus.-See "Quarrying Ma-

Hoisting Apparatus.-Virginia Soapsto Co., Schnyler, Va., wants to buy second-hand derrick irons, capacity ten to fifteen tons, and a 40-horse-power horizontal bolier in good order; also hoisting engine. 12-ton icity, on single line.

Hydraulic Machinery.—Mrs. E. O. Lee, ovington, Ga., wants to buy, if possible, "jet" operated by compressed air to raise ater, just as is done by steam.

Lime-kilus.-J. H. Recves, Eufaula, Ala., ime-kilns.

Lock, etc.—James B. Quinn, major engi eers, New Orleans, La., will open pro osals April 15 for improving Bayou Plaque

Lumber-mill Equipment. -- Wilhelm Blount, Denand, Fla., want tram engl and three pairs of trucks, shingle machine etc.; second-hand will do.

Machine Tools -- See "Foundry Equip

Manifolding Apparatus.-W. O. Williams Blue Ridge Springs, Va., wants prices on outfit for manifold copying.

Mining Equipment.—George R. Dunn, Wytheville, Va., wants to buy ore-washing plant, about 25-horse-power boller and 20torse-power engine, to be used in pumping water and running the Buddle; also wants deam pump, with engine and boiler; secondhand machinery will do.

Oil Machinery.—W. O. Williams, Blue Ridge Springs, Va., wants information re-garding the manufacture of sassafras oil, estimates on machinery for the purpose, etc. Ridge Springs,

Paper-weights. — Wanted — Glass paper-veights for advertising purposes. Address 2. O. Box 404, Atlanta, Ga.

Piping.—Blue Ridge Cement and Lime Works, Blue Ridge Springs, Va., wants to buy 200 to 500 feet of one and one-quarter or one and one-half-inch fron pipe; second-and will do. Give full particulars. hand will do.

Quarrying Machinery.—Jackson Meshler lining Co., 40½ Whitehall street, Atlanta, i.a., wants to buy machinery for manufac-

uring slate, to include saws, lathes, steam motor, cables, hoists, drills, etc.; company also wants to obtain information regarding the painting and firing of slate to give it the appearance of marble.

Railway Equipment.—Carolina & North-western Railroad, L. T. Nichols, superin-tendent. Chester, S. C., is in the market for cond-hand vacuum-brake equipment.

Rallway Equipment.—See "Lumber-mill Equipment."

Railway Equipment.—George R. Dunn, Wytheville, Va., wants second-hand T-rails, twelve to sixteen pounds.

River Improvements.—James B. Quinn, najor engineers, New Orleans, La., will open proposals March 18 for improving Cal-

Road Construction.—The commissioners Pike county, Tennessee, will advertise for bids on the construction of twenty-one miles of turnpike road. Address C. W. Fox. Sevierville, Tenn.

Soapstone Slabs,- Z. & S., care Manufac sturers' Record, want to buy soapstone slabs six feet by one foot six inches by one and one-quarter inches and smaller, or will buy blocks from which these sizes can be cut.

Sugar-mill Machinery.—Wanted—A second-hand five-foot by 30-inch three or six-roller mill, steam train of four clarifiers, two evaporators and one strike pan, two filter presses, two bagasse and two wood bollers, two centrifugals and mixer (for open kettle sugar), juice and syrup pumps and tanks. Address Sugar Mill, care of Manufacturers' Record.

Sugar Mills, etc.—Meigs Furniture Co Meigs, Ga., wants to correspond with mal-ers of syrup evaporators.

Syrup Evaporators.—See "Sugar Mills,"

Tailors' Irons. - See "Electrical-heating Equipment.

Telephone Equipment.— Mountain Tele-phone Co., John B. Hurts, manager, Har-lan, Ky., wants bids on the construction complete of telephone system fourteen miles in length, except poles; three instruments will be used.

Telephone Equipment.—N. C. Watts, man-ager Citizens' Telephone & Telegraph Co., Newport News, Va., wants bids on poles, crossarms, Nos. 12 and 14 steel wire, gauge,

Trucks.-Collins Co., Pennsboro, W. Va., in the market for dry-kiln trucks and floor trucks.

Water Supply.-See "Well-drilling."

Water Supply.—See "Well-drilling."
Water-works and Light Plant.—Sealed bids will be opened March 28 for construction of water-works and light plant for town of Holly Springs, Miss.; plant to include tower, tank and structural steel, two horizontal tubular boilers and heater, deep-well lift, compound duplex pump, compound high-speed or simple four-valve steam engine, 60-kilowatt alternator and station equipment, about 570 tons four to ten-inch cast-iron pipe and specials, hydrants and equipment, about 570 tons four to ten-inch cast-iron pipe and specials, hydrants and valves, brick central station, receiving basin and foundation, boiler setting, installing steam machinery, electrical construction, etc. For blank forms and specifications ad-dress Sam Finley, mayor.

Water-works Machinery. - See "Boiler,

Well-drilling.-The city of Bristol, will receive bids during the next thirty days for sinking an artesian well; 10-inch pipe must have capacity of 225,000 gallons daily ss N. G. Peters, water commis Addr

Woodworking Machinery.—J. A. Ellis. Forest Hill, W. Va., is in the market for a planer, matcher and molder.

Woodworking Machinery.—J. H. Reeves Eufaula, Ala., wants to correspond with makers of machinery for manufacturing

Woodworking Machinery.-D. P. Averitt, tatesboro, Ga., wants process on two die upright shapers, circular resawing ma-chines, dry-kilns and machinery for small sash, door and blind factory.

Woodworking Machinery. -- Wilhelm & Blount, Denand, Fla., want shingle machines, second-hand.

oodworking Machinery.—Shirey & But-Warren, Ark., want prices and cata-es on box machinery.

Woodworking Machinery.-J. R. Tubb parts, Tenn., wants a good second-hand rta, Tenn., wants a good secon spoke lathe in good condition.

Tanneries Manager.—J. F. Randenbush, resident manager of New River Tannery, Parrisburg, Va., has moved to Salem, Va., and has been employed as general manager of the New River and Salem Tanneries, owned by Messrs. Lease & McVity.

TRADE NOTES.

Twist Drill.—A souvenir of the Morse Twist Drill & Machine Co., of New Bedford Mass., comes in the shape of a miniature drill, nickeled, and equipped to be worn as

Extract Shipment.-The Tanners & Dyers' Extract Supplied.—The Talliers & Pyers Extract Co., of Charleston, W. Va., recently shipped to Chicago five carloads of extract This is the largest order filled by this concern since it was established in 1892.

To Steam Users .- Mr. R. S. Hale has been To Steam Users.—Mr. R. S. Hale has been appointed consulting engineer of the Mutual Boiler Insurance Co., of Boston, Mass. His services are available by members of the company to advise on the conditions of steam plants, etc.

Ice-machinery Contracts, -- Contracts closed Ice-machinery Contracts, Contracts closes lately by the Fred W. Wolf Co., of Chicago Ill., Include one for a 25-ton condenser at Anniston, Ala.; direct-expansion piping at Macon, Ga.; 50-ton animonia condenser at Nashville, Tenn.; five-ton lee plant at Paris, Tenn., and seven-ton plant at Brook haven, Miss.

Machine Tools.—The Davis & Egan Machine Tool Co., of Clucinnati, Ohio, has received through the office at Berlin, Germany, orders for a number of screw machines, lathes, drill presses and shapers from the Electricitats Gesellschaft Helios, of Cologne, and Schuckert & Co., of Nuremburg. Both of these concerns are large builders of electrical equipments.

Attention, Manufacturers!—A complete factory building, located in the Piedmont section of Western North Carolina, is now offered for sale. The main building is 100x 50 feet in dimension, five stories high, steam elevator installed, while good power, abundance of cheap labor, water, electric lights and railroad facilities are at hand. This is an excellent opportunity for the establishment of a yarn mill, knitting mill, shoe factory or other plant. For information address other plant. For information addre-'Plant," care of Manufacturers' Record.

Door and Transom Fastener.—A patent for a useful door and transom fastener has been based to Mr. H. C. Chaplin, of Charottesville, Va. The fastener acts as an ordinary bolt, and by a slight movement the door can be opened about five Inches for ordinary bolt, and by a slight movement the door can be opened about five inches for conversation, reception of packages, or be left open for ventilation, if desired, as it is impossible for a person to open the door beyond the limit. The door can be opened, however, from the inside by closing it, and from the outside by opening the lock with

Superior Coke and Coal.-The continu Superior Coke and Coal.—The continued favor with which the coal and coke of the Standard Coal Co. is received is a strong testimony to the superior qualities of the product offered for sale by that concern. The Standard Coal Co. is of Brookwood, Ala., and produces a grade of foundry coke that is not excelled, and its celebrated "Mill-dale Seam" of coal is well known for its steaming merits, being used exclusively on the warships Pensacola and Mobile. Correspondence from foundries, factories and other users of steam is invited.

New Pump Works.—An entirely new plant will be erected by the Epping-Carpenter Co., of Pittsburg, Pa., manufacturers of steam pumps. The plant will include machine shop 169x200 feet, brass foundry, pipe shop, shop 100x200 feet, brass foundry, pipe shop, etc., and will be completed within six months. Meanwhile the present works will be able to supply the demand for steam pumps, anti-friction metals ("Bismarck," "Thistie" and "Shamrock," being special brands) and other brass castings and steam fittings. The company will add a large line of machinery for the manufacture of all pumps called for, continuing to make a specialty of the "Epping."

National Association of Manufacturers in "The Bourse,"—The National Association of Manufacturers has completed arrangements to locate its headquarters in the Bourse, Philadelphia. This extensive trade organi-zation has secured ample apartments in the southeast corner room of the building, and will be fully equipped for the transaction of will be fully equipped for the transaction of its business. The headquarters will be offered as a rendezvous for manufacturers of Philadelphia and vicinity; also a ren-dezvous for manufacturers from other cities desiring to transact business with local men Mr. E. H. Sanborn, chief of the "Departmen of Publicity," will be in charge of the apart

Reference-card System. - The Library Bureau, owner of the perfected reference-ard system, which is in use in many of the ending business offices in the country, has

removed from its former location, 146 Franklin street, to new and commodious freproof building, corner Congress street and Atlantic avenue, Boston, Mass. Here, under one roof, the Bureau has home, offices and salesroom, card manufacturing and printing plant, and with the exception of its card-case factory in Boston and its unin wood manufacturing plant in Chicago, all the general administration and manufacturing will be attended to from Buston.

Steam-towing Machines.—The attention of those interested in towing is called to the advantages of the Shaw and Spiegle patent steam towing machines, manufactured by the American Ship Windiass Co., of Providence, R. I., Frank S. Manton, agent. The many superior features of these towing machines are well attested by the reports on them coming from users, their constantly increasing sale and the recommendations of the prominent firms of the maritime world. The sale of these devices is widespread, extending all over the world, only last week an order having been received for a steam-towing machine to go to Esquinnalt, British Columbia.

Roller Works.—The Hartley Boller Works, of Montgomery, Aia., J. H. Hartley, proprietor, has recently moved to new quarters located on the line of the Louisville & Nashville Railroad. This new plant is fitted up with all new and up-to-date machine tools, traveling cranes, etc. Mr. Hartley is well known in the South, having been in the boiler business in Montgomery since 1875, and has constructed machinery for all parts of the Southern country. He has just completed twenty-five large storage tanks for oil for the Southern Cotton Oil Co., at Savanuah, the largest being 40-foot diameter, all having upwards of 500,000 pounds of steel in their construction.

"Phoenix" Fire Hose.—The chief of the Memphis (Tenn.) fire department, referring in a letter to the "Phoenix" brand of 2½; inch five-ply carbolized rubber fire hose, says: "This hose * * * when full of water will lay perfectly straight and will not stretch or twist in any way, thus preventing friction and giving a greater discharge of water than could be obtained with a four-ply hose. It is very pliable and will red closer than the hose made with heavier duck." This is a high compliment to the "Thoenix" hose, which is manufactured by the Boston Belting Co., of Boston, Mass. This hose is treated with a carbolized acid process to prevent mildew or rot, and the cotton duck used in it is closely woven and of special weight.

TRADE LITERATURE.

Stone-planing Machines.—A pamphlet just issued by the Lincoln Iron Works, of Rutland, Vt., is devoted to a lucid explanation, with illustrations, of the stone planers built by the company. This company has expended much time and labor in the development of the practical machines which it has produced.

Catalogue of Hardware,—A general line of hardware, including many specialities, house furnishing goods and toys, is described and illustrated in the new catalogue of the Wrightsville Hardware Co., of Wrightsville, Pa. The line of goods is thorough and complete, and the facilities for producing them are of the very highest grade, and are not excelled by many plants in the country.

Lumber-plant Specialties.—A perusal of the catalogue of the Jeffrey Manufacturing Co., of Columbus, Ohio, shows a complete tine of specialties for handling logs, lumber, refuse, shavings, sawdust, slabs and general offal. The Jeffrey chains and steel cables and other machinery are too well known with favor to the trade to need recommendation here. Lumber millers should have a copy of this latest price-list.

Portland Cement.—The growth of the use of Portland cement in the building trade of recent years has been much marked by those interested. The many superior qualities of this cement for the purposes for which it is utilized are generally recognized by builders everywhere. Of the firms man-facturing this material, one of the most prominent is the Glens Falls (N. Y.) Portland Cement Co. The company's brochure, now rendy, contains some remarks about Portland cement by W. W. Maelay, C. E., together with a description of the plant and product of this company. Sole agents for the Glens Falls Portland cement is the Commercial Wood & Cement Co., of Philadelphia and New York, where communications can be addressed.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for the following page.

Louisville & Nashville Bonds Sold.

The financial condition of the Louisville & Nashville Railroad Co. is indicated by the announcement that it has succeeded in selling an issue of \$12,500,000 in 4 per cent. honds, a portion of which will be used to refund an outstanding issue of 7 per cent, bonds amounting to \$7,070,000 due in April next. It is stated that the arrangement was made by August Belmont, chairman of the board of directors of the railroad company. The purchasers are Messrs. Vermilye & Co., the prominent investment dealers of New York and London.

The Manufacturers' Record has several times within the past year referred to the increasing earnings of the Louisville & Nashville and to the excellent report of the last half of 1897, in spite of the extraordinary reduction in business enforced by quarantine restrictions in the South. For January there is an increase over the same month in 1897 of \$170,079; 1896. 884.058: 1895. 8170.494: 1894. \$117,986. For the fourth week of January there was an increase over 1897, '96, '95 and '94 of \$78,709, \$3168, \$4654, \$40,-881, and a decrease from 1893 to \$48,384. From July 1 to January 31 there is an increase over every year except 1892-93.

Since the Louisville & Nashville began publishing a detailed annual report several years ago, investors, both American and foreign, have obtained an insight to the great earning power of the company, and incidentally their attention has been called to resources of the South, of which it is one of the great trunk lines. It has also secured a very large part of the export business hauled to Southern ports, which is another reason for its prosperity. The transaction referred to, it is calculated, will save the company in interest charges \$212,000 annually, or nearly \$20,000 per month.

Of Interest to Investors.

The issue of \$2,720,000 in 5 per cent. bonds of the Charleston & Western Carolina Railroad Co., which is offered to investors by the Maryland Trust Co. of Baltimore, has aroused much interest on account of the exceptional value of these securities. The railroad in question extends through one of the most prosper sections of the South. It is 340 miles in length, and the bond issue is at the low rate of \$8000 per mile. The earning ca pacity of the road is indicated by the report for the last half of 1897, which showed net earnings of \$141,013. interest on the bond issue is but \$136,000. it will be seen that the net earnings for the six months were more than the inter est for one year. The Charleston & Western Carolina is now a branch of the Atlantic Coast Line, one of the principal railroad companies of the country. Subscriptions to these bonds will be open at the office of the Maryland Trust Co. at 10 A. M. February 23, and will be closed at 3 P. M. on the following day. The issue is offered at 10315 and interest. ready over \$1,000,000 of the issue has been placed in Baltimore and New York.

Richmond Trust Company Formed.

The Richmond Trust & Safe Deposit Co. has been formed at Richmond, Va., with a minimum capital of \$300,000.

Among those interested are John Skel-Williams, of the banking firm of John L. Williams & Sons; Preside Robert C. Davidson, of the Baltimore Trust & Guarantee Co.; J. William Middendorf, a well-known hanker of Baltimore: Hon. Joseph E. Willard, of Fairfax, Va.; Hon. W. Josiah Leake, James W. Allison, N. W. Bowe, John W. Rothert, William R. Trigg, Hon. William Wirt Henry, Henry L. Cabell, Frank A. Davenport, F. W. Scott, W. M. Habliston and James Lewis Anderson of Richmond, and William F. Cochran, of New York. Mr. Cochran is a director in the Western Union Telegraph Co., and also in the Georgia & Alabama Railway.

The incorporators are all prominent financiers and business men, and the company promises to become one of the leading financial institutions of the South

Increasing Its Business.

The last report of the United States Fidelity & Guaranty Co. of Baltimore shows the largely increasing business of this corporation and its remarkable suc cess in its particular field. Its total as ets are \$890,506, of which nearly \$412. 000 is under the item of eash in the com pany's office and in bank. Its surplus as regards policy-holders is \$813,037, \$8000 more than its entire paid-up capital. Its surplus as regards stockholders is \$63,000, and its total income \$160,000. During the year 1897 the company wrote policies in Maryland alone amounting to \$5,736,000, and received premiums dur ing the same period aggregating \$23,000. while the total amount of its losses paid in the State during the year was but \$389.75.

A Successful Corporation.

The Maryland Trust Co. of Baltimore has moved into its offices in the Farm ers and Planters' National Bank Building on South street, and is now in possession of commodious and elegant apartments which are in keeping with its position as a financial corporation and the progress which it has made. This company located in its present quarters when first organized, but for several months has been occupying temporary offices while the bank building was being practically rebuilt, and is now in its old nome again. The experience and ability of its officers and board of directors have given it a place in the front rank of the financial institutions of the country. It has been especially prominent in carrying out enterprises which have been of the greatest importance to the South and has proved a prominent factor in Southern developm

New Corporations.

The Westminster Deposit & Trust Co, has been organized to do business at Westminster, Md.

J. H. Blackburn, of Dry Ridge, Ky., is organizing a bank with \$15,000 capital at Dover, in the same State,

Julius A. Horne, L. C. Hall and others have organized the Merchants and Farmers' Bank at Milledgeville, Ga., with \$40,-000 capital.

The Columbus Building Association has been formed at Baltimore, with \$650,000, with Henry C. Bean, Frank W. Cole and others.

James M. Easter, E. W. Adams and others have organized the Central States Banking & Trust Co., with \$50,000 capital. Its offices are to be in Baltimore.

William Heyser, Frank Popplein, Geo. A. Blake and others have organized the Chesapeake Trust & Deposit Co., to do business at Baltimore, with \$500,000 capital.

A. E. Potter, of Abbeville, Ga., it is re- nual dividend of 4 per cent.

ported, will open a bank at Sheffield, Ala. J. H. Haywood, Philip Brown and others have formed the Columbia Investment Association at Newport News, Va., with \$5000 capital.

The Maryland Casualty Co., recently incorporated, has elected the following directors: Wilmer Brinton, Alexander Brown, Henry J. Bowdoin, Daniel E. Conklin, William T. Donnelly, Emmanuel Greenbaum, Jackson C. Gott, Lloyd L. Jackson, J. W. Middendorf, Seymour Mandelbaum, Aubrey Pearre and John T. Stone. The company has a capital stock of \$250,000, divided into 10,000 shares of \$25 each. It will transact an insurance and surety business.

New Securities.

The city of Augusta, Ga., has recently sold \$28,000 worth of 3½ per cent, bonds at par.

The city of Gadsden, Ala., has decided to sell \$5000 worth of bonds immediately. Mayor Elliott may be addressed.

The Mercantile Trust & Deposit Co, of Baltimore has asked the legislature for permission to increase its expital from \$1,000,000 to \$5,000,000.

The city of Annapolis, Md., is considering an issue of 4 per cent, bonds to purchase stock of the Annapolis Water Co. Elihu Riley will give further information.

Rudolph Kleybolt & Co., of Cincinnati, O., have purchased an issue of \$35,000 bonds by Sevier county, Tennessee. The bonds bear 5 per cent, interest and sold at \$135 premium.

Hon. Patrick Walsh, mayor, may be addressed relative to the proposed issue of \$100,000 in bonds of Augusta, Ga., made to retire a similar amount due on March 1. They will bear 4 per cent, interest

The Knoxville Light & Power Co., of Knoxville, Tenn., has decided to issue \$100,000 worth of 5 per cent, bonds for refunding purposes and improvements. The Union Trust Co. of Philadelphia is trustee.

It is announced that Messrs. H. B. Hollins & Co., of New York, have placed on sale \$1,000,000 of 5 per cent, bonds of the Baltimore, Chesapeake & Atlantic Railway Co. The entire issue amounts to \$1,250,000.

The Mercantile Trust & Deposit Co. of Baltimore has been appointed trustee of the issue of bonds of the Norfolk Street Railway Co., which amounts to \$900,000 and bears 5 per cent. interest. These bonds, which have been offered for sale by the Mercantile, also the Baltimore Trust & Guarantee Co., have found ready purchasers in Baltimore, which is an indication of the appreciation of investors of first-class securities.

A correspondent of the Manufacturers' Record states that the city of Seguin, Texas, is considering a plan to purchase the plant of the Seguin Water & Ice Co. by issuing bonds to the amount of \$15,000 and assuming the bonded debt of the company, amounting to \$36,000. It is calculated that the revenue at present from the water works amounts to 5 per cent. Interest on \$115,000. The property is valued at \$51,345. F. G. Weinert is chairman of the city council committee investigating the matter.

Dividends and Interest.

The Baltimore Fire Insurance Co, has declared a dividend of seventy-five cents per share,

The Kentucky Wagon Co., of Louisville, Ky., has declared a quarterly dividend of 1% per cent.

The Cannon Manufacturing Co., of Concord, N. C., has declared a semi-annual dividend of 4 per cent.

H H

f

TABLE OF CONTENTS.		
EDITORIAL:	Pag	
Let the Good Work Go On		541
Banking for the South For the South's Benefit		54
Southern Exports Again		54
Good Judgment Exercised		
Educating to Nothingness Culture in Cotton Mills		60
Training in Technology		
A Plea for Concessions		61
Factories for Houston		61
Around the Cotton Mills		
Some Views from West Virginia Beet Sugar in Virginia		
COMMERCE:		
Southern Exports from Pacific Port		655
The Western-Southern Movement Charleston's Direct Trade		62
Another Mississippi River Line		
Baltimore Shipping Facilities		63
South and West Congress		
Jottings at the Ports The Quarantine Convention		
RAILROAD NEWS:		
Cost of Passenger Transportation		
Developing Southwest Georgia Chesapeake & Ohio at Norfolk		164
New Roads in North Carolina		
Railroads in West Virginia		
They Want a Railroad		
Differential Rates for the Scaboard May Enter Birmingham		
A Report Denied		
Railroad Notes		
Alabama's Mineral Production		
TEXTILES:	(FR
Needs of the North	(5-0
Cotton Mills and Legislation		
New Mill Machinery Proposed Cotton Pool		
Georgia vs. Massachusetts		
The Cotton Movement	(55
Southern Mills Busy Textile Notes		965 262
COTTONSEED OIL:		my
The Market for Cottonseed Products		jij
Cottonseed-Oil Notes		100
PHOSPHATES:	0	Ю
Phosphate Markets	6	163
Phosphate and Fertilizer Notes	6	iti
LUMBER:		
Lumber Market Reviews: Baltimore	61	7
Charleston	6	7
Savannah		
Mobile Lumber Notes	6	
MECHANICAL:		•
Grinding Machines and Countershal	(ts	
(Illus.)		
New Tenoning Machine (Illus.) Wire Belt Lacing (Illus.)		
Dial Feed Presses (Illus.)		
Iron Markets	62	9
CONSTRUCTION DEPARTMENT:		0
New Enterprises		
Railroad Construction	7:	
Machinery Wanted		
Trade Notes	4. 7	
FINANCIAL NEWS:	.,	
Louisville & Nashville Bonds Sold		
Of Interest to Investors	7	
Richmond Trust Company Formed		
Increasing Its Business		
New Corporations	74	
New Securities		- 1
Dividends and Interest	19	
		- 1

The Wilmington Cotton Mills Co., of Wilmington, N. C., has declared a quarterly dividend of 1 per cent.

The Cannon Cotton Manufacturing Co., of Concord, N. C., has declared a semiannual dividend of 4 per cent.

TRADE LITERATURE.

Elevating and Conveying Specialties.—Il-lustrated catalogue and price-list No. 22 of "Salem" elevator buckets and other conveying and elevating specialties has just been issued by the W. J. Clark Co., of been issued by the W. J. Clark Co., of Salem, O. The company's line also includes general plate and sheet-metal work, "Quick as Wink" hose couplings, etc. Catalogue No. 22, catalogue of "Tote" boxes and plate-inetal work generally, or of hose couplings sent free on application.

"Triumph" Ice Machines.—"Triumph" ice machines are widely and favorably known in this country. They are built by the Triumph Ice Machine Co., of Cincinnati, O.,

Members Baltimore Stock Exchange.

MIDDENDORF, OLIVER & CO. BANKERS AND BROKERS,

Ho. 213 E. German Street, [KRYSER SUILDING.] Baitimore, Md.
Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other
Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

SPERRY, JONES & CO.

DEALERS IN Southern Investment Securities.

410, 412, 414 Equitable Building, Baltimore, Md.

OUR FACILITIES ARE UNEXCELLED.

LIFE INSURANCE POLICIES

WRITE ME FOR QUOTATIONS.

BOUGHT AT INVESTMENT PRICES. WRITE ME FOR QUOT

If you have a large line of Life Insurance to place, I can make it worth your while to communicate with me.

E. A. COWLEY, No. 712 MERCHANTS NATIONAL BANK, BALTIMORE, MD.

and a complete descriptive illustrated catalogue concerning them has been issued. The company's claims for superiority for its machines are based on simplicity, durability and efficiency, and the favor with which they have been received by the public durability the past four years hears out these ing the past four years bear claims to a considerable extent. bears out these

We offer \$2,720,000

First Mortgage 5 Per Cent. Gold Bonds

Charleston & Western Carolina Railway Company.

Principal I ue October 1, 1946 Interest, April and October.

Central Trust Company of New York, Trustee

These are Coupon Bonds of \$1000 each with privilege of registration, and are secured by a first mortgage, limited to \$8000 per mile of main track, upon the line of railroad from Port Royal, South Carolina, to Augusta, Georgia, thence to Anderson, Greenville and Spartanburg, in South Carolina, a distance of three hundred and forty (340) miles, together with all extensions, branches and railroads hereafter constructed, purchased or owned, and all equipment, appurtenances, leaseholds, income and franchises now owned or hereafter ac anired.

The increase in gross earnings compared with the previous year \$103,735.99. For six months, July 1, 1897, to Decem

Net Earnings for Six Months. . \$141,012.77 being more than the interest for the whole year

We have had our own engineer examin the Road, and his report shows that it is in excellent physical condition.

We also have a very full and satisfactory statement from the late Vice-President, Mr. W. A. C. Ewen, who has had charge of the Road since its organization in October, 1896, until recently, both of which, as well as copies of the mortgage, we shall be pleased to show to any one desiring to invest.

The Atlantic Coast Line has acquired possession of this Road by purchase of all the Capital Stock, \$1,200,000, and has taken charge of its operation, having removed the offices to Wilmington, N. C., where its own general offices are lo-

The financial standing and reputation of the Atlantic Coast Line are too high and well known to require comment, but the following table is interesting as showing the prices bid for the various issues of Bonds on the Roads owned and controlled by it, constituting this system. These are all bids, and it is to be noted that even at these prices no Bonds can be obtained:

Richmond & Petersburg. 6s 1915 115 bid.
Richmond & Petersburg. 7s 1915 120 "
Richm'd & Pet'rsb'g Cons. 4½s 1940 100 "
Petersburg Railroad.... 5s 1926 114 "
Petersburg Railroad.... 5s 1926 118 "
Wilmington & Weldon... 4s 1944 107 "
Wil., Col. & Augusta... 6s 1910 119 "
Norfolk & Carolina 5s 1939 1939 109 " Norfolk & Carolina.....5s 1939 109 "
Cheraw & Darlington...5s 1930 106 "
Manchester & Augusta..5s 1943 108 "

Subscriptions will be opened at the office of the Maryland Trust Company at 10 o'clock on the morning of February 23, and closed at 3 P. M. of the following day.

The right is reserved to reject applications, and to close the subscription prior to that time without notice.

New York deliveries will be made at the office of The State Trust Company.

Price 1031/2 and interest, subject to advance without notice.

MARYLAND TRUST COMPANY. Baltimore.

JOHN L. WILLIAMS & SONS, BANKERS,

Dealers in

RICHMOND, VA

Southern Investment Securities, MUNICIPAL BONDS A SPECIALTY Correspondence Invited.

THE FAVETTEVILLE WATER CO., of Fay THE FAVETTEVILLE WATER CO., of Fayetteville, Ark., will receive bids on Thirty
Thousand First Mortgage Refunding Bonds to
run eighteen years, to bear 5 per cent. interest,
paid semi-annually, guaranteed by the city. Bids
received until March 20, 1898. Address
FAVETTEVILLE WATER CO.,
FAVETTEVILLE ARK

FAVETTEVILLE, ARK.

TO CONTRACTORS.

If you have any municipal bonds or warrants, ken in payment for building waterworks, court school houses, jails, etc., write us. Conditions

F. M. STAFFORD & CO. Dealers in Southern Municipal Security Chattanooga, Tenn.

Mercantile Trust & Deposit Co.

OF BALTIMORE Pald-up Capital, \$1,000,000. Surplus, \$1,000,000.

Surplus, \$1,000,000.

DEPOSITS RECEIVED
On which interest is allowed, governed by current rates obtainable.

TRUSTEES AND ADMINISTRATORS.
This company is a Legal Depository for funds in the hands of Trustees or Administrators, and allows interest on same pending distribution.

Authorized to act as Executor, Administrator, Guardian, Receiver or Trustee.

ACTS as Trustee of Mortgages of Corporations and accepts Transfer Agency and Registry of Stocks.

Safe Deposit Boxes for Rent.

Vaults supplied for Storage of Silver Chests, etc.

JOHN GILL, of R., President.

JOHN R. BLAND, President. ALEXANDER PAYSON KNAPP, Sec'y.

STATEMENT SHOWING THE CONDI-TION OF THE U.S. FIDELITY AND GUARANTY COMPANY OF BALTIMORE DECEMBER 31, 1897.

ASSETS

Value of real estate and ground rents owned by the Company, less amount of encumbrance thereon.

Mortgage loans on real estate. Stocks and bonds absolutely owned by the Company (market value).

Amount of all loans (except mortgages) secured by stocks, bonds and other securities hypothecated to the Company for cash actually loaned by the Company.

Interest due and accrued on stocks, bonds and other securities

25,900,00

77,469.18

56.051.64

\$33,390.91 3,579.49

384,612,50

stocks, bonds and other se-curities
ash in Company's principal
office and belonging to the
Company deposited in bank
'remiums due and in course
of collection. 411,806,35 8890,505.90

LIABILITIES.

Losses reported, adjusted and unpaid. Reserve as required by law. 48,727.72
Cash deposited as security for risk. 28,649.68

Total liabilities..... Surplus as regards policy-holders Assets not admitted as above stated \$813,036,72

Capital stock paid up..... \$63 228 36

Surplus as regards stockholders

Total income.
Total expenditures.
Amount of policies in force in
United States on 31st December, 1897.
Amount of policies written in
Maryland during the year
1897.
Promiums received on Mary-25,746,775.22 1897.... the year remiums received on Mary-land business in 1897..... osses paid in Maryland dur-ing 1897. osses incurred in Maryland during 1897....

5.736.313.02 22,619.14 389.75

STATE OF MARYLAND,
INSURANCE DEPARTMENT,
COMMISSIONER'S OFFICE,
Annapolis, January 31, 1898.
In compliance with the Code of Public
General Laws, I hereby certify that the
above is a true abstract from the statement
of the U. S. FIDELITY AND GUARANTY
INSURANCE COMPANY OF BALTIMORE
to December 31, 1807, now on file in this
Department.

F. ALBERT KURTZ,

F. ALBERT KURTZ,

MARYLAND TRUST CO.

Corner South and German Sts.

BALTIMORE. CAPITAL,

- \$1,000,000, A LEGAL DEPOSITORY FOR COURT AND TRUST FUNDS.

Acts as Financial Agent for States, Cities. Towns, Railroads and other Corporations. Transacts a general trust business, Lends

pransacts a general trust business. Lends money on approved security. Allows interest on special deposits. Acts as Trustee under Mortgages, Assignments and Deeds of Trust; as Agent for the Transfer or Registration of Stocks and Bonds, and for the payment of coupons, interest and dividends. J. WILLCOX BROWN, PRESIDENT

LLOYD L JACKSON, FIRST VICE-PREST HENRY J. BOWDOIN, SECOND VICE-PREST J. BERNARD SCOTT, Secretary and Treasurer. DIRECTORS.

J. Willcox Brown, Wm. A. Marburg, Basil B. Gordon, Lloyd L. Jackson, Geo. A. von Lingen, H. J. Bowdolu, Joshua Levering, Frank Brown, W. B. Brooks, Jr., W. H. Baldwin, Fred'k W. Wood, F. M. Thieriot,

Leopold Strouse,
Henry Walters,
H. A. Parr,
B. N. Baker,
Andrew D. Jones,
James Bond,
Alexander Brown,
John A. Tompkins,
Clayton C. Hall,
J. D. Baker,
Joseph E. Willard,
John B. Garrett,

Alphabetical Index of Advertisers.

A	
Abbe, M. F	0.4
Aetna Standard Iron & Steel Co	-
Alabama Bridge & Boiler Co	
Alabama Foundry & Machine Wks	
Albany Steam Trap Co	
Alber & Byrne	
Alexander Bros	
Alford, A. G., Sporting Goods Co.	. 30
Alpha Paint & Mineral Co	. 30
Alsing, J. R., Co	
American Balance Slide Valve Co.	. 18
American Cotton Oil Co	29
American Diamond Rock Drill Co.	- 35
American Engine Co	21
American Impulse Wheel Co	3
American Ship Windlass Co	
American Supply Co	
American Woodworking Mch, Co.	26
Ames Iron Works	9
Andersen, J., Jun. & Co	21
Andrews, A. H., & Co	1
Apollo Iron & Steel Co	32 18
Armitage Mfg. Co	25
Atkins, E. C., & Co	
Atlanta Terra Cotta Co	19
Austin Separator Co	
Austin White Lime Co	6
В	
Babcock & Wilcox Co	
Baeder, Adamson & Co	8
Railey-Lebby Co	34
Bailey, John T., & Co	18
Baker, Julian M	19
Baldwin Locomotive Works	13
Ball Engine Co	
Baltimore, Chesapeake & Richmond	
Steamboat Co	
Baltimore Engraving Co	- :
Baltimore Storage & Light. Co	31
Barber Asphalt Paving Co	19
Barnes, W. F. & John, Co	8
Barnett, G. & H., Co.	38
Bates's, James, Sons	
Bay Line	31
Beach, H. L	
Heckley, A. J., & Co	35
Benjamin Iron & Steel Co	33
Berryman, James	15
Bertsch & Co	24
Resly, Chas. H., & Co	38
Bingham & Co	15
Bird, Wm. M., & Co	6
Sirmin tham Boiler Works	9
Block-Poliak Iron Co	21
Poomer & Boschert Press Co	19
Boston Belting Co	11
Bowdon, R. E	6
Bowes, F. K	31
Bradford Belting Co	11
Bradford's Detective Agency	19
Bradford Mill Co	12
Bradley Pulverizer Co	35
Bradstreet Company	1
Brickenstein, L. B	28
	19
Broomell, Schmidt & Co	17
Brown, A. & F	34
B. own-Bierce Co	
brown Housting & Con. Mch. Co	9
Brown, Lucius P	6
Buckeye Engine Co	14
Suckeye Iron and Brass Works	30
Buffalo Forge Co	38
Bureau of Freigh and Transporta-	18
tion, Charleston, S. C	37
Bushnell, G. H., Press Co	28
Byers, Juo. F., Machine Co	9
by cro, yao. a manana comment	1
Cady, C. N	10
Caldwell, H. W., & Son Co	4
Calera Lime Co	6
Cameron, A. S., Steam Pump Wks	32
'ameron & Barkley Co	34
Card Electric Co	34 37
Card Electric Co	34 37 39
Card Electric Co	34 37 30 21
Cameron & Barkley Co	34 37 30 21 24
Cameron & Barkley Co	34 37 30 21 24 34
Cameron & Barkley Co	34 37 30 21 24 34
Cameron & Barkley Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carne'l, George Caroline Iron Works Forver Cotton Gin Co. Case Mfg. Co. Castner, Curran & Bullitt.	34 37 30 21 24 34 29
Cameron & Barkley Co. Card Blectric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnell, George Caroline Iron Works "Fiver Cotton Gin Co. Case Mfg. Co. Costner, Curran & Bullitt C. & B. Line.	34 37 39 21 24 34 34 29
Cammeron & Barkley Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnel', George Caroline Iron Works 'erver Cotton Gin Co. Case Míg. Co. Cotner, Curran & Bullitt. C. & B. Line. C. G.	34 37 30 21 24 34 29 9
Card Electric Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carne'l, George Caroline Iron Works Perver Cotton Gin Co. Caste Mfg. Co. Castner, Curran & Bullitt. C. & B. Line. C. G. Channon H., Co.	34 37 30 21 24 34 29 9 36 30 30
Cameron & Barkley Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnell, George Caroline Iron Works Caroline Iron Works Caroline Iron Works Catner, Curran & Bullitt. C. & B. Line. C. G Channon H, Co. Chapman, Wm. A., & Co.	34 37 39 21 24 34 29 9 36 30 80 10 6
Cammeron & Barkley Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carne'l, George Caroline Iron Works Server Cotton Gin Co. Case Mfg. Co. Castner, Curran & Bullitt. C. & B. Line. C. G Channon H., Co. Chapman, Wm. A., & Co. Chapman Valve Mfg. Co.	34 37 39 21 24 34 29 9 36 30 20 10 6
Cammeron & Barkley Co. Card Electric Co. Cardwell Machine Co. Cardin's, Thomas, Sons Carne'l, George Caroline Iron Works Server Cotton Gin Co. Castner, Curran & Bullitt. C. & B. Line. C. G. Chapman, Wn. A., & Co. Chapman Valve Mig. Co. Charlotte Machine Co.	34 37 39 21 24 34 39 9 36 30 20 10 6 8
Candre Barkley Co. Card Electric Co. Cardwell Machine Co. Cardin's, Thomas, Sons Carne'l, George Caroline Iron Works Carter Cotton Gin Co. Caste Mfg. Co. Catner, Curran & Bullitt. C. & B. Line. C. G. Channon H., Co. Chapman, Wm. A. & Co. Chapman Valve Mfg. Co. Charte Mfg. Co. Castenoga Fdy. & Pipe Works.	34 37 30 21 24 34 29 9 36 30 80 10 6 8 29 38
Cameron & Barkley Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnel', George Caroline Iron Works Caroline Co. Catlanon H., Co. Chapman Wm. A., & Co. Chapman Vaive Mfg. Co. Charline Co. Cattanooga Fdy. & Pipe Works. Chattanooga Machinery Co. Chattanooga Machinery Co.	34 37 39 21 24 34 29 9 36 30 80 10 6 8 8 29 38 38 26
Cameron & Barkiey Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnel, George Caroline Iron Works Cather, Curran & Bullitt. C. & B. Line. C. & C. Channon H, Co. Channon H, Co. Chapman, Wm. A. & Co. Chapman Valve Mfg. Co. Charlotte Machine Co. Crattanooga Fdy. & Pipe Works. Chattanooga Stel Roofing Co. Chesaneake Belting Co.	34 37 30 21 24 34 29 9 36 30 80 10 6 8 29 38
Cameron & Barkiey Co. Card Electric Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carnel, George Caroline Iron Works Cather, Curran & Bullitt. C. & B. Line. C. & C. Channon H, Co. Channon H, Co. Chapman, Wm. A. & Co. Chapman Valve Mfg. Co. Charlotte Machine Co. Crattanooga Fdy. & Pipe Works. Chattanooga Stel Roofing Co. Chesaneake Belting Co.	34 37 39 21 24 34 39 9 36 30 10 6 8 8 29 38 22 24 38 24 38 24 38 26 27 38 38 38 38 38 38 38 38 38 38 38 38 38
Cammeron & Barkley Co. Card Electric Co. Cardwell Machine Co. Cardwell Machine Co. Carlin's, Thomas, Sons Carne'l, George Caroline Iron Works 'erver Cotton Gin Co. Caste Míg. Co. Castner, Curran & Bullitt. C. & B. Line. C. G. Channon H., Co. Chapman, Wm. A., & Co. Chapman Valve Míg. Co. C'harlotte Machine Co. Cattanooga Fdy. & Pipe Works. Chattanooga Machinery Co. Chattanooga Steel Roofing Co. Chattanooga Steel Roofing Co.	34 37 38 39 21 24 34 39 9 9 36 30 10 6 8 29 38 29 38 22 11 24 34 34 29 10 10 10 10 10 10 10 10 10 10 10 10 10

	1	Fe
Chrome Steel Works	. 1	3
Cincinnati Corrugating Co		
Cin., Hamilton & Dayton R. R		1
Cincinnati Screw & Tap Co		
Clark Electric Co		
Clendenin Bros		_
Cleveland, Lorain & Wheeling Ry Cleveland Wire Spring Co		
Climax Mfg. Co	. 1	3
Coburn Trolley Track Mfg. Co Coboes Iron Fdy. & Mch. Co		
Columbia Water Power Co	. 3	B
Columbus Machine Co Commercial Electric Co		
Commercial Wood & Cement Co.		
Consolidated Steel & Wire Co	- 24	8
Contractors' Plant Mfg. Co., Ltd Cordesman Machine Co		
Cordesman, Meyer & Co	. 27	7
Cornman Co Cortright Metal Roofing Co	91	
Covert Mfg. Co	23	
Cowley, E. A		
Cox, Justice, Jr Crompton & Knowles Loom Wks.4	31	9
Cronk Hanger Co	1	+
Crosby Steam Gage & Valve Co Curtis & Marble Machine Co		
Cutler Mfg. Co		
Cypress Lumber Co		1
Dallett & Co	-	
Dana, W. K		
Davis & Egan Mch. Tool Co		
Davis-Farrar Co Davis, G. M., & Son		
Dean Bros. Steam Pump Works	32	
De Loach Mill Mfg. Co Dempwolf, C. H., & Co		
Detroit Lubricator Co		
Dietz, Schumacher & Boye		
Disston, Henry, & Sons Dixon, Jos., Crucible Co		
Dopp, H. Wm., & Son	29	
Dow Wire Works Co		
Oraper Machine Tool Co	12	
Oufur & Co Ounbar, R., & Son		
Dunning, W. D		
К		
Easton Burnham Machine Co		
Eccles, S., Jr		
Eco Magneto Clock Co Electrical Engin'ring & Supply Co.		
illis & Helfenberger		
Empire Paint & Roofing Co	10	
Epping-Carpenter Co		
Erikson, Edward E	6	
Sureka Fire Hose Co	10	
Everson, B. M		
	19	
Fairmount Machine Co	28	
arguhar, A. B., Co., Limited	8	
ay, J. A., & Egan Co	27 25	
ayetteville Water Co	75	
'eatherstone's, John, Sons 'ernandina Oii & Creosote Works.	8	
fifield Tool Co	12	1
inley, Samuel	19	
itz-Hugh & Co	32	
oos Gas Engine Co	17	
oos Míg. Co	8	
forsaith, S. C., Machine Co		
ort Wayne Electric Corporation		
ossick Co., T. L	6	1
reck, Wm., Co	12	1
reese, E. M., & Corench, Saml. H., & Co	24	
rick Co	15	
roehling, Dr. Henry		
rontier Iron Works		
ulton Steam Boiler Wks		
19		
alt, John, & Sons		
ardner, Jonce L	1 I 20	
arrett-Buchanan Co	85	
eneral Fire Extinguisher Co		
ilbert, C. M., & Co	6	
laskins, George F., & Co	6	

Orassined index see pages 5,	
Gregory Co., C. E	21
Guilfoux & Blanc	. 6
H Haines, Jones & Cadbury Co	
Haines, William S., Co Hairston, Frank C	
Hales & Ballinger	6
Hall Steam Pump Co Hanika, C., & Sons	
Hansell Spring Co	
Harrington & King Perforat's Co.	4
Harrisburg Mfg. & Boller Co Harrison, Randolph	
Hartford Steam Boiler Inspection	1
& Insurance Co	
Hartzell Novelty Works	
Harvard University	
Hayden, J. M., & Co Hazard Mfg. Co	
Help Wanted	1
Hench & Dromgold	
Hickman, Williams & Co	
Hiertz, Theo., & Son	
High Point Machine Works Hirsch, L. K	
Holmes, E. & B., Machinery Co	36
Holmes Fibre Graphite Mfg. Co Holt, S. L., & Co	
Hoopes & Townsend	
Houston, Levi, Co	
Howard, B. C Howes, S., Co	
Humphryes Mfg. Co., The	
Huther Bros	+
riutton Engineering Co	0
India Alkali Works	28
Ingersoll-Sergeant Drill Co	
International & Gr. Northern Ry	
J	
Jackson Mfg. Co	
Janney & Steinmetz Jeansville Iron Works Co	
Jeffrey Míg. Co	
Jenkins Bros	
Jewell Belting Co	11
K Kansas City, Pittsburg & Gulf R. R.	22
Kearsley, G. T	20
Keeler, E., Co	9
Kelly, O. S., Co., The Kelly & Jones Co	
Kendrick Valve & Washer Co	19
Keystone Drop Forge Co Kiechler Mfg. Co	
Kilbourne & Jacobs Mfg. Co	1 2
	29
Knox, Henry E., Jr	6
Lagonda Míg. Co	4
Lambert Gas & Gasoline Eng. Co	
Lambert Hoisting Engine Co Lane Manufacturing Co	
Lang, S. Logan	
Lathbury, Spackman & Bache	6
Le Blanc, Alcee Leffel, James, & Co.,	
Lehigh Valley Brass Works	17
Lewis, H. F., & Co., Ltd Lidgerwood Manufacturing Co	
Link-Belt Engineering Co	30
Lobdell Car Wheel Co	
	9 28
Lowell Textile School	+
Ludlow-Saylor Wire Co	
Ludlow Valve Mfg. Co	
Lyon, A. I	
M	
Macfarren, S. J	
Makepeace, C. R., & Co	6
Manistee Iron Works	33
Ma ion Steam Shovel Co Martin, Hy., Brick Mch. Mfg. Co	24
Maryland Mig. & Construction Co.	36
	75
Mason Regulator Co	29 32
Maxwell, W. G	20
McClave, Brooks & Co	9
McCully, R	34
McDonald, John, & Sons	6
McGowan, John H., Co	32
McLanahan & Stone	34
	30
Mecklenburg Iron Works	34
Mercantile Trust & Deposit Co	

Meyer, Dr. Otto	. 6	
M. F		
Middletown Machine Co		
Miles Franklin S		
Miles, Franklin S	. 6	
Mitchell Tempered Copper Co		
Mitshkun, M., & Co More, Jones & Co		
Morse Twist Drill & Mch. Co	12	
Morse, Williams & Co		
Muirhead, John	35	
Muirhead Machine Works Mundt & Sons		
Munson Bros	.35	
Murphy, John, & Co		-
N	34	
National Paint Works		
National Pipe Bending Co National Roofing & Supply Co		4
Nettles, W. K	20	00
New Atlantic Hotel New Columbus Bridge Co		40
New England Railroad		90 0
N. J. Car Spring & Rubber Co Newburg Ice Mch. & Engine Co		10.00
Newport News Shipbuilding & Dry		40 4
Dock Co New Rapid Dry Kiln Co		00 00
New York Equipment Co	22	60
New York Fireproof Covering Co.		02 03
Niagara Stamping & Tool Co Nicholson File Co	38	60
Nordyke & Marmon Co		27 01
Norrish, Burnham & Co North American Metaline Co	33	92.0
Northern Electrical Mfg. Co	18	0 20.0
Norton, C. H Norton Emery Wheel Co	6	17 07 0
0		200
Oher Lathe Co Oid, W. W		1100
Otto Gas Engine Works		20.00
P. Bananat Hansu B. & Co.		27.00.10
Pancoast, Henry B., & Co Parkhurst Bros. & Co		20 02
Paxson, J. W. Co	25	20 00
Peacock, George	10	
Peck-Hammond Co	30	7
Penberthy Injector Co	38	7
Philadelphia Bourse	9	7
Phila. Machine Screw Works Philadelphia Steel Roofing Co	32 25	1
Piqua Copying Machine Co	31	T
Pittsburg Feed-Water Heater & Engineering Co	15	T
Pittsburg Locomotive Works	13	U
Plant		U
Playford Stoker Co	16	
P. O. Box L	19	~
Porter, H. K., & Co	13	444
Poulterer & Co Powhatan Clay Mfg. Co	6	222
Pratt, N. P., Laboratory	6	
Pratt & Whitney Co	13	V
Price & Heald	22	V
Priestman & Co	16	V
Providence Machine Co	29	V
Pulsometer Steam Pump Co	32	V
Q Queen City Printing Ink Co	:	V
Queen City Supply Co		V
Rand Daill Co		V
Ramd Drill Co	37	V
Record Printing House	1	V
Reed, F. E., Co	6	V
Reliance Gauge Co	17	V
Repauno Chemical Co	31	V
Rhoads, J. E., & Sons	11	V
Riter-Conley Co Robbins & Myers Co	6 21	V
Robertson, Jas., Mfg. Co	34	V
Robins, A. K., & Co Robinson, J. M., & Co	9 24	**************************************
Robinson, Wm. C., & Son	23	V
Robinson & Orr	19	V
Rossendale-Reddaway Belting &		V
Hose Co	26	Y
Ruger, J. W., Mfg. Co	17	
	35	Z
	22	

Clinciant Corregating Co.	Chrome Steel Works, 13	Gregory Co., C. E 21	Meyer, Dr. Otto 6	Schieren, Chas. A., & Co 10
Citchicant Street of Yay Co				
Care March A Darton E. M. Section Care March Care March Care March Care March Care March Care March Care Care March Care				
Clark of the No.		Outribus & Dialic Fifth Control of		
Clark Black Co.		H		
Cart. W. N. Vesterley, Fr. Cleverland, Lerial, N. Westerley, Fr. Cleverland, Lerial, N. Westerley, Fr. Cleverland, Write Bright Co. 2 Hill Shame Paper Sc. 2 Hill Shame				
Circland Night Spring Co. 3 Circland Properties Copers Co. 3 Circland Night Spring Co. 3 Circland Night Spring Co. 3 Circland Night Co. 3 Circland Ni				
Gleeched Lorent A Wheeling Price Health Scena Presp Co. 3				
Circulated Wints Bright Co. 15 Colore Trickly Trickly Trickly Co. 15 Colore Trickly Trickly Trickly Co. 15 Colore Trickly Trickly Trickly Co. 15 Colore Trickly Colore Trickly C	Cleveland, Lorain & Wheeling Ry. ‡	The state of the s		
Climate May C. A.	Cleveland Wire Spring Co 31			
Coloniar March Person Co.				
Scheen box Per A Met. Co				
Schmidt Water Fource Co. 20 Commercial Electric Co. 27 Commercial Wood & Commer Co. 27 Commercial Wood & Commer Co. 28 Contractors Plank (Co. L. d.)	Cohoes Iron Fdy. & Mch. Co 20			
Scheller Stack Stack Scheller Stack Stack Scheller Stack Sta	Columbia Water Power Co 30			
A general Electric Co. 37 Consistant State Co. 38 Seathers A Aline. 38 Seathers A Aline. 39 Seathers A Seath	Columbus Machine Co 8, 17			
Constitution Work Nurve Co.				
Seministrated Storel Na Wire Co. 1 4 1 1 1 1 1 1 1 1				
Southern First Mile Co. L. List Street Miles	Consolidated Steel & Wire Co 24			
Cordenam Machine Co. 6	Contractors' Plant Mfg. Co., Ltd 9			
Sand Mig. Co.	Cordesman Machine Co 26			
Comman C			National Paint Works	
Mench & Drangedd.	Cornman Co 21			
Section Sect	Cortright Metal Roofing Co 25			
Cond. Justice Justic	Covert Mfg. Co 23			
Martin 1900 Martin 2000 Martin 200	Cowley, E. A 75			
Comprise According Comprise Comprise According Comprise	Cox, Justice, Jr			
Crowly Steam Gaze & Vario Co. 1 Control Steam Gaze & Vario Co. 2 Control Steam Gaze & Vario Co. 2 Control Steam Gaze & Vario Co. 2 Control Steam Gaze & Vario Co. 3 Control Gaze & Vario Co. 3 Contr	Crompton & Knowles Loom Wks.4, 29			
Coulty Statem Cage & Volve D.	Cronk Hanger Co †			
Carriel May Co.	Crosby Steam Gage & Valve Co 17			
Dock Co. Spread Lamber	Curtis & Marble Machine Co 29			
Spread Lamber Co.	Cutler Mfg. Co 6			
Dallett & Co. 2	Cypress Lumber Co *			Sprout, Waldron & Co 35
Daniel M. Co. 1	n			
Date Section Date				Standard Coal Co 19
Davis Brain Co. 1				Standard Oil Co
Backs, G. M., & Som 14 Hattine Engineering Co. 5 Dacks, G. M., & Som 14 Hattine Engineering Co. 5 Dacks, G. M., & Som 14 Hattine Engineering Co. 5 Dacks, G. M., & Som 14 Dactorit Labricator Co. 9 Dacks, Schumber & Boyz. 13 Dactorit Labricator Co. 9 Dactority Response of Parts, Schumber & Boyz. 13 Dactority Response of Parts, Schumber & Boyz. 13 Dactority Response of Parts, Schumber & Boyz. 13 Dactority Response of Parts, Schumber & Boyz. 14 Dactorit Labricator Co. 9 Dactor Response & Boyz. 15 Dactority Response & Boyz. 15 Dactor				Standard Paint Co 25
Dark Bros. Seam Pump Works 2 Dark Bros. Seam Pump Works 3 Dark Loads Mill Mig. Co. 37 Dark Seam Seam Pump Works 3 Dark Loads Mill Mig. Co. 37 Dark Seam Seam Pump Works 3 Dark Loads Mill Mig. Co. 37 Dark Seam Seam Pump Works 3 Dark Seam Seam Seam Pump Works 3 Dark Seam Seam Seam Seam Seam Seam Seam Seam				Standard Saw Mill Machinery Co. 26
Deas No. Steam Pump Works 3 De Loach Milli Mills (C. D. 7 Dempared) (C. H., A. Co.				Standard Scale & Supply Co 30
Del Lanck Mill Mile. Co. 70 Delta Albail Works 10 Delta Albail Works 1		angmeeting committee of		Standard Tool Co
Demport C. H., & Co.		1		Stanley Electric Mtg. Co 17
Detroit Labricator Co	Dempwolf, C. H., & Co †			Stebbins, Wallace
Diets, Schumacher & Boyo	Detroit Lubricator Co 9			Steel Kail Supply Co 22
Disabon Servert Jac. & Co. 3 Jackson Mig. Co. 3 3	Dietz, Schumacher & Boye 12			Stevens' H. Sons Co 12
Dixasp. Nac., Crachibe Co. 58 Dong, H. Was, Son. 59 Draper Machine Tool Co. 51 Draper Machine Tool Co. 52 During R Co. 53 During R Co. 54 During R Co. 54 During R Co. 54 During R Co. 55 Du	Disaton, Henry, & Sons †	international & Gr. Northern Ky		Stewart, Jas., & Co 6
Dopp, H. Wm. & Son.	Dixon, Jos., Crucible Co 38	J		Stiles, E. S., Press Co., The
Dow Wire Works Ca.	Dopp, H. Wm., & Son			Stow Flexible Shaft Co. 32, 33
Draper Co.	Dow Wire Works Co 24		P	Struthers, Wells & Co.
Daubark R. & Son 34	Draper Co 28		Pancoast, Henry R. & Co	Stuebner, G. L., Iron Works 8
Dunling M. D. 19 Dunling				Sturtevant Mill Co
Danhair, R., & Son				Sullivan Machinery Co 35
Pechin, T. F. Pechin, T. F		Jewell Belting Co 11		Supervising Architect 19
Easton Burnham Machine Co. 29 Eccles, S. Jr. 29 Feck-Hammond Co. 39 Fech Fermand Co. 39 Fech Machine Works. 39 Feck Fermand Co. 39 Fech Machine Works. 30 F	Dunning, W. D 19	K		T
Earliery G. T.	K	Kansas City, Pittsburg & Gulf R. R. 31		Taylor, A. W., Land & Lumber Co. 20
Reciler S. J. Jr. See Reciler S. Co. See Reciler S. See	Faster Burnham Machine Co			Thaver I A & Co
Eclip Comparison Clinck Comparison C		Keeler, E., Co 9		Thompson, J., & Sons, Mfg. Co 17
Eclip & Hellomberger 2				Toledo Machine & Tool Co 24
Empire Paula & Roofing Co.				Tower & Wallace
Empire Paint & Roofing Co.				Trenton Iron Co
Simpling-Carpenter Co. 13 Silvano, Edward E 6 Explosing-Carpenter Co. 13 Silvano, Edward E 6 Explosing-Carpenter Co. 15 Silvano, Edward E 15 Silv				Trevor Mfg. Co
Elibourg Carpenter Co. 5 Elisting Carpenter Co. 5 Elisting Carpenter Co. 5 Elisting Edward E 6 Eliting Edward E 6 Eliting Edward I 1 Elizaber Co. 5 Eliting Edward J 1 Elizaber Co. 5 Eliting Edward J 1 Elizaber Co. 5 Elizaber Co. 10 Everson, B. M 2 Eachange Banking & Trust CO 10 Elizaber Co. 10 Everson, B. M 2 Eachange Banking & Trust CO 10 Elizaber Co.		Kiechler Mfg. Co +		Tudor Boiler Mfg. Co
Etiting_Edward .			Engineering Co 15	4.7
Etting, Ridward J. 21 Everson, B. M. M. 27 Everson, B. M. 27 Everson,		Kilburn, Lincoln & Co 29	Pittsburg Locomotive Works 13	Union Ican Weeks Co
Eureing Bir Hose Co. 10			Pittsburgh Plate Glass Co 23	United Electric Improvement Co., 17
Exchange Banking & Trust Co. 19 Exchange Banking Banking & Trust Co. 19 Exchange Banking		L.	Plant 20	U. S Fidelity & Guarantee Ins. Co. 75
Lambert Gas & Gasoline Eng. Co. 17 Lambert Gas & Gasoline Eng. Co. 17 Lambert Hoisting Engine Co. 18 Pomosa Terra Cotta Co. 19 Pomosa Terra Cotta Co. 10 Pomosa Terra Cotta Co. 19 Pomosa Terra Cotta Co. 10 Pomos		Lagonda Mfg. Co 4	Playford Stoker Co 16	V
Lambert Hoisting Engine Co. 14			P. O. Box L 20	Valdosta Foundry & Machine Co., 18
Fairmount Machine Co. 26 Farquhar A. B., Co. Limited. 8 Farquhar A. B., C			Pomona Terra Cotta Co 19	
Farquhar, A. B., Co., Limited Early, Spackman & Bache. 6 Part, J. A., & Egan Co. 57 Lebinyr, Spackman & Bache. 6 Part, N. P., Laboratory 7 Part & Co. 12 Par		Lane Manufacturing Co 26	Porter, H. K., & Co	Viaduct Rrass Works
Pay Manilla Roofing Co. 25 Elliance, Alcee 0. 25 Elliance, Alcee 0. 25 Elliance, Alcee 0. 25 Elliance, Alcee 0. 26 Elliance, Alcee 0. 27 Elliance, Alcee 0. 27 Elliance, Alcee 0. 28 Elliance, Alcee 0. 29 Elliance, Alcee 0. 29 Elliance, Alcee 0. 20		Lang, S. Logan 20		Vitrified Emery Wheel Co 13
Fay Mailla Roofing Co.		Lathbury, Spackman & Bache 6		vulcan Works 30
Featherstone's, John, Sons. 8 Fernandina Oli & Cresoste Works. 5 Fernandina Oli & Cresoste Works. 5 Fernandina Oli & Cresoste Works. 5 Finied Tool Co. 12 Finiely, Samuel. 15 Finity, Samuel.		Le Blanc, Alcee 20		W
Payleteviter Visite Sample				Walker & Allan 8
Ecronal than Oil & Cresoste Works 22 Edgerwood Manufacturing Co 9 Clink - Rel Engineering Co. 30 Clink - Re				Walket & Elliott
Lidgerwood Manufacturing Co. 9				Waterman, L. E., Co 30
Finely, Samuel.			The state of the s	Watkins & Hardaway 6
Filtz-Hugh & Co. 22 Combard from Wise. & Sapply Co. 9 Combard from Wise. & Sapply Co. 10 Western Electric Co. 10 Western Electric Co. 10 Western Electric Co. 10 Western Electric Co. 10 Western Maryland Railroad. 9 Westing Bouse Air Brake Co. 16 Freck, Wm. Co. 12 Known Electric Co. 15				Webster, Warren, & Co
Fogs. A				Weir Frog Co
Construction Cons				West Mfg. Co
Forbest Western Electrical Supply Co. 36				Western Electric Co 20
Forsaith, S. C., Machine Co. 14	Foos Mfg. Co *			Western Electrical Supply Co 36
Forsaith, S. C., Machine Co. 15 For Wayne Electric Corporation. 37 Fossick Co., T. L			Queen City Supply Co	Westinghouse Air Brake Co., The. a
For twayne Electric Corporation 37 Fossick Co. T. L. 6 Fox Portable Elevator & Rack Co. 6 Fox Machine Co. 11 Fox Portable Elevator & Rack Co. 6 Fox Machine Works . 17 Fox Ele Economizer Co. 16 Fox Portable Elevator & Rack Co. 6 Fox Main Belting Co. 11 Fox Makepeace, C. R. & Co. 6 Fox Ma			R	Westinghouse Elec. & Mfg. Co 36
Macfarren, S. J. S				West Pascagoula Creosote Works
For Portable Elevator & Rack Co Freek, Wm. Co 12 Freese, E. M., & Co 24 Freese, E. M., & Co 24 Freese, E. M., & Co 24 Freech, Saml. H., & Co 5 Main Betting Co 11 Makepeace, C. R., & Co 6 Main Betting Co 11 Makepeace, C. R., & Co 6 Recd, F. E., Co 12 Whitnsville Spinning Ring Co 26 Whitney, Baxter D 26 Whitney, Baxter				Wetherill, Robt., & Co
Main Belting Co. 11	Fox Portable Elevator & Rack Co. 6	415		Whaley, W. B. Smith, & Co 6
French, Saml. H., & Co.				Whitney, Baxter D 25
Prick Co.				Willcox, W. A 20
Martin, Hy, Brick Mch. Mfg. Co. 24 Rhoads, J. E., & Sons. 11 Riter-Conley Co. 16 Robbins & Myers Co. 17 Riter-Conley Co. 6 Robbins & Myers Co. 18 Robertson, Jas., Mfg. Co. 14 Riter-Conley Co. 6 Robbins & Myers Co. 19 Robbins & Myers Co. 10 Riter-Conley Co. 6 Robbins & Ro				Williams Bros
Martin, Hy, Brick Mch. Mfg. Co. 24 Rhoads, J. E., & Sons. 11 Riter-Conley Co. 16 Robbins & Myers Co. 17 Riter-Conley Co. 6 Robbins & Myers Co. 18 Robertson, Jas., Mfg. Co. 14 Riter-Conley Co. 6 Robbins & Myers Co. 19 Robbins & Myers Co. 10 Riter-Conley Co. 6 Robbins & Ro				Williams, Haskins, & Co 32
Fuel Economizer Co. 16 Fulton Steam Boiler Wks. 7 Fulton Steam Boiler Wks. 7 Galt, John, & Sons. 25 Gandy Betting Co. 11 Gardner, Jonce L. 20 Garrett, C. S., & Son. 25 Garrett, C. S., & Son. 25 General Fire Extinguisher Co. 19 Gilbert, C. M., & Co. 6 Glaskins, George F., & Co. 6 Glaskins, George F., & Co. 6 Glaskins, George F., & Co. 4 Globe Machine Works. 9 Godden's Foundry & Machine Co. 36 Gravit, C. S., & Son. 27 Globe Machine Works. 9 Godden's Foundry & Machine Co. 36 Gravit, C. S., & Son. 27 Godden's Foundry & Machine Co. 37 Godden's Foundry & Machine Co. 38 Godden's Foundry & Machine Co. 38 Gravit, C. S., & Son. 27 Godden's Foundry & Machine Co. 38 Godden's Foundry & Machine Co. 38 Godden's Foundry & Machine Co. 38 Gravit, C. S., & Son. 26 Gravit, R. Son. 27 Gravit, R. Son. 27 Gravit, R. Son. 28 Maryland Míg. & Construction Co. 36 Maryland Míg. & Construction Co. 37 Maxwell, W. Co. 32 Mobins & Myers Co. 34 Williams, John L. & Son. 37 Williams, John L. & Son. 31 W				Williams, I. B., & Sons
Fulton Steam Boiler Wks. 1				Williams, John L., & Son
Mason Machine Works 29 Mason Regulator Co. 32 Mason Regulator Co. 32 Robins, A. K., & Co. 9 Willon, Ca., & Co. 16 Wolf Co., The. 18 Wolf, Co., The. 19 Wo				Williams & Schmid †
Mason Regulator Co. 32 Robins, A. K., & Co. 9 Robinson, J. M., & Co. 44 Robinson, J. M., & Co. 45 Robinson, J. M., & Co. 46 Robinson, J. M., & Co. 47 Robinson, J. M., & Co. 48 Robinson,	- BILLIN ALEXEN DONET WES *	Mason Machine Works 29		Willis, E 20
Galt, John, & Sons. 25 Gandy Betting Co. 11 Gardner, Jonce L. 20 Garrett-Buchanan Co. 25 Garrett, C. S., & Son. 25 General Fire Extinguisher Co. 19 Gilbert, C. M., & Co. 6 Glaskins, George F., & Co. 6 Glaskins, George F., & Co. 6 Glowdey, J. A., & Son. 26 Gravity & Machine Co. 34 Gowdey, J. A., & Son. 26 Graphite Lubricating Co. 13 Gravity, G. 36 Gravity, G. 37 Maxwell, W. G. 20 McClave, Brooks & Co. 9 McClove, Brooks & Co. 24 McClove, Brooks & Co. 25 McClove, Brooks & Co. 25 McClove, Brooks & Co. 25 McClove, Brooks & Co. 24 McClove, Brooks & Co. 24 McClove, Brooks & Co. 25 McClove, Brooks & C				Wolf Co., The 18
Gandy Betting Co. 11 McClave, Brooks & Co. 9 Robinson, Wm. C., & Son 23 Robinson, Wm. C., & Son 25 Robinson & Orr. 22 Worthington, Henry R. 18 Rogers, T. F. 19	Galt, John, & Sons 25			Word R D R Co
Garrett, Jonce L				Worthington, Henry R.
Garrett-Buchanan Co				W. P. H 19
Garrett, C. S., & Son		McCully, R		Wright Co., The 12
General Fire Extinguisher Co. 19 McGowan, John H., Co. 32 Hose Co. 4 McKenna, David. 7 Glaskins, George F., & Co. 6 Glaskins, George F., & Co. 6 Glen Cove Machine Co., Ltd. 27 Globe Machine Works. 9 Meak, V. A., Cycle Co. 30 Mecklenbarg Iron Works. 34 Gowdey, J. A., & Son. 28 Mcrchants & Fulton Iron Wks. 15 Graptive Lubricating Co. 13 Mcrchants & Minera' Transp. Co. 31 Sanderson, John. 6 Granty, Rob. Ware. 20 Mcwannan H. G. 20 Mcwannan H. G. 32 Mcwannan H. G. 32 Mcwannan H. G. 33 Mcwannan H. G. 34 Mcwannan H. G. 35 Mcwannan H. G. 36 Mcwannan H. G. 37 Mcwannan H. G. 38 Mcwannan H. G. 39 Mcwannan H. G. 30 Mcwannan H. G. 32 Mcwannan H. G. 34 Mcwannan H. G. 35 Mcwannan H. G. 36 Mcwannan H. G. 37 Mcwannan H. G. 38 Mcwannan H. G. 38 Mcwannan H. G. 39 Mcwannan H. G. 39 Mcwannan H. G. 30 Mcwannan H. G. 32 Mcwannan H. G. 34 Mcwannan H. G. 35 Mcwannan H. G. 36 Mcwannan H. G. 37 Mcwannan H. G. 38 Mcwannan H. G. 39 Mcwannan H. G. 39 Mcwannan H. G. 30 Mcwannan H. G		McDonald, John, & Sons 6		Wyckoff, Seamans & Benedict 18
Gilbert, C. M., & Co			Hose Co *	
Glen Cove Machine Co., Ltd				York Míg. Co
Globe Machine Co., Ltd			Ruger, J. W., Mfg. Co 17	
Globe Machine Works				
Gowdey, J. A., & Son		Mecklenburg Iron Works 34		
Gowdey, J. A., & Son			Sabel Bros 23	Ads. marked thus * appear every
Grasty, Robt, Ware			Samson Steel Belt Hook Co 18	other week.
				issue of each month.
	70 Waterman, 20	меняни, п. С.	Saunders, D., Sons	

PROPOSALS.

PROPOSALS.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., February 14, 1898.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of March, 1898, and opened immediately thereafter, for all the labor and materials required to place in position complete, a tower clock and bell for the U. S. Courthouse, Custom-house and Postoffice but ding at Omaha, Neb., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Omaha, Neb. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be dremed in the interest of the Government to do so. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Tower Clock and Bell for the U. S. Courthouse, Custom-house and Postoffice, Omaha, Neb.," and addressed to the Supervising Architect.

TREASURY DEPARTMENT, Office Supervis-

Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., February 5th, 1898.—Sealed proposals will be received at this office until 1 o'clock F. M. on the add day of March, 1898, and opened immediately thereafter, for all the labor and materials required for the decorative painting of the U. S. Courthouse, Postoffice, etc., building at Detroit, Mich., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Detroit, Mich. The right is reserved to reject any or all bids and to waive any defect or informality in any bid, should it be deemed in the interest of the Government to do so. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Decorative Painting of the U. S. Courthouse, Postoffice, etc., at Detroit, Mich." and addressed to the Supervising Architect.

TREASURY DEPARTMENT, Office Supervis-

at Detroit, Mich.," and addressed to the Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., February 2d, 1896—Sealed proposals will be received at this office until 2 o'clock P. M. on the 24th day of February, 1898, and opened immediately thereafter, for furnishing all the labor and materials and erecting complete two hydraulic passenger elevators, one hydraulic mail lift and one hydraulic passenger elevators, one hydraulic mail lift and one hydraulic passenger elevators, one hydraulic mail lift and one hydraulic passenger elevators, one hydraulic mail lift and one hydraulic passenger, custom House and Postoffice Building at Omaha, Nebraska, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Omaha, Nebraska. The right is reserved to reject any or all bids, and to waive any defect or informality in any bid, should it be deemed in the interest of the Government to do so. Proposals must be enclosed in envelopes, sealed and marked "Proposal for two Hydraulic Passenger Elevators, one Hydraulic Mail Lift and one Hydraulic Ash Lift, for the U. S. Court House, Custom House and Postoffice building at Omaha, Nebraska," and addressed to the Supervising Architect.

TREASURY DEPARTMENT, Office Supervis-

Postoffice building at Omaha, Nebraska," and addressed to the Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., February 10th, 1898, -Sealed proposa's will be received at this office until 2 o'clock P. M. on the 8th day of March, 1998, and opened immed'ately thereafter, for furnishing all the labor and materials and fixing in place complete the boiler plant, low-pressure exhaust steam heating mechanical ventilating apparatus, cold and hot water supply system, etc., and fire pump required for the U.S. Postoffice, Court House and Custom House building at Milwaukee, Wisconsin, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Milwaukee, Wisconsin. The right is reserved to reject any or all bids, and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. Proposals must be enclosed in envelopes, sealed and marked, "Proposals for Boiler Plant, etc., Cold and Hot Water Supply, etc., system for the U.S. Postoffice, Court House and Custom House building at Milwaukee, Wis," and addressed to the Supervising Architect.

WATER AND LIGHT PLANT,

HOLLY SPRINGS, MISS.

HOLLY SPRINGS, MISS.

The Board of Mayor and Aldermen of Holly Springs, Miss., will receive sealed proposals till S. 9 F. M. March 28th, 1898; for furnishing materials and darch 28th, 1898; for furnishing materials and darch 28th, 1898; for furnishing materials and constructing a water and light plant, embracing either or all of the following items:

A. Tower, tank and structurals cel.

B. Two horizontal tubular boilers and heater.

C. Deep well lift.

D. Compound duplex pump.

E. Compound duplex pump.

Steam Engine.

F. Sixty K. W. alternator and station equipment.

G. About 570 tons 4 to in. cast iron pipe and specials.

H. Hydrants and valves.

I. Brick central station.

I. Receiving basin and foundation.

K. Boi'er setting.

I. Installing steam machinery.

M. Electreal construction.

Each proposal is to be accompanied with a deposit of 3 per cent of the amount of the bid. The right is reserved to reject any or all b ds.

For blank forms and specifica io s address

SAM. FINLEY, Mayor,

Holy Springs, Miss.

WALTER G. KIRKPATRICK, Enginer,

Jackson, Miss.

The Boomer & Boschert KNUCKLE JOINT



Janney & Steinmetz,

DREXEL BLDG., PHILALELPHIA.

IRON AND STEEL PLATES. Manufactured Shapes, Forgings, Etc.

CHARLESTON, S. C.

is showing great Commercial Develo

For Sale-Residences, Building Lots, Farms, Manufacturing and Hotel Sites.

An ideal city for a HOME. Full of historic interest. Cost of living is cheap and climate delightful. Educational facilities are unsurpassed.

Garden produce of farms urar Charleston is shipped to Northern and Eastern markets at good profits.

Exchange Banking & Trust Company, CHARLESTON, S. C

P. O. Box 127.

BRADFORD'S DETECTIVE AGENCY. M. BRADFORD, Supt.

82 Bank Street, NORFOLK, VA. Legitimate work solicited in any part of the country. Write for references.

POMONA TERRA COTTA CO., Pomona, N.C.

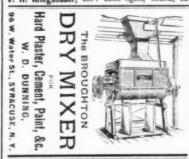


SEWER, DRAIN, CULVERT and TERRA-COTTA PLUE PIPP and FIRE BRICK.

Atlanta Terra Cotta Co.

ARTISTIC WORK,
PROMPT DELIVERIES,
LOW PRICES. Address all communications to

V. H. Kriegshaber, Gen'l Sales Agent, Atlanta, Ga





SITUATIONS WANTED.

Advertisements under this head are inser'ed free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

WANTED-Miller of 17 years' experience as head miller in late improved mill would like to correspond with some mill company who would give fair wages to miller capable of taking charge of mill of 100 to 1000 bbls. capacity Address FLOUR MILLER, 222 Gl.lis St., Kansas City, Mo.

WANTED-Young man of experience wants position as stenographer or assistant book keeper; good references; moderate salary to start. Address C. W. B., 403 Fatherland St., Nashville,

WANTED.—Situation as saw mill manager and operative with 18 years experie ce, prefer the South. P. O. Box 77, E ston. Md 125

WANTED.—By At practical die, tool and jig maker. Has designed and made dies, tools, special machinery, fixtures, etc, for clock typewriter, se wing machine, bicycle and general hardware work Well educated, best of references, capable of taking charge. Address DIE WORKER, care Manufacture's Record.

TRAVELLING SALESMAN throughout N. E. and Middle States, with permanent office on Broadway, N. Y., would like one or more good accelties; exclusive agency in above territory preferred. Address P. O. BOX 1018, New York, N. Y.

WANTED.—A position as bookkeeper by an experienced man of forty-five; now has a position but desires to change; no set of books to intricate; best of reference given. Address "C. J. B.," 217 N. 21st St., Birmingham, Ala. 125



ASPHALT PAVEMENTS

Enhance the Value of Property One-Third. DURABLE HEALTHFUL NOISELESS

20,000,000 square yards laid in eighteen years.

For plans and estimates apply to

THE BARBER ASPHALT PAVING COMPANY, General Office, il Broadway, New York.

COKE

The Standard Coal Co., Brookwood, Ala.,

Produces the Best Foundry Coke in the South, and the Highest Grade Washed Blacksmith Coal. Our celebrated "Milldale Seam" of Coal is superior for steam purposes. This Coal is used exclusively by the Government on its war vessels Pensacola and Mobile.

FOUNDRY COKE AND BLACKSMITH COAL OUR SPECIALTIES.

Correspondence from foundries, factories and users of steam

Our Coast Agents, MOBILE COAL CO., A. C. Danner, Presdt., MOBILE, ALA.



Standard Typewriter's **New Models**

draw old friends closer and attract new ones, by the power of inherent merit and unfailing service.

WYCKOFF, SEAMANS & BENEDICT



Self Draining Hose Reel. It will last twenty years at

\$2.50

\$3.00 EACH.



It is rigidly, scientifically and mechanically constructed. It drains out all the water. It keeps the hose in good order. The hose is not kinked, twisted, crushed or drawn to a tension as it is easily unree'ed. It se'ls at sight. For catalogue and lists address

The Hartzell Novelty Works, Allianoa, O., U. S. A.

Kendrick Valve & Washer Co., Syracuse, N. Y. Manufacturers of a l kinds of Pump Valves and Plungers. Special Valves, Plungers and Cups to order. Elevator and Hydraulic Cups.



The "RIDER" Friction Drive PACKER

For All Kinds of Pulverized Minerals.

THE S. HOWES COMPANY,

Established 1856

SILVER CREEK, N. Y.

L. B. BRICKENSTEIN,

SALEM, N. C.

Automatic Sprinkler Equipments. STEAM AND HOT WATER HEATING.

MEDAL AND DIPLOMA AWARDED
WORLD'S COLUMBIAN EXPOSITION.

Grinnell Automatic **Sprinklers**

THOUSANDS OF FIRES IN ALL PARTS OF THE WORLD

in which the damage has been confined to limited area, and minimum amount, show the value of this system.

Executive Offices-Providence, R. I.

GENERAL FIRE EXTINGUISHER COMPANY.

Information and proposals given on appli-

FOR SALE.

A New Hosiery Mill.

Capacity over 100 dozen a day. Has not been run two years. Cost \$14,000. Will sell for \$8000 cash. Apply to

W. K. DANA, Westbrook, Maine.

FOR RENT.

Desirable Brick Yard.

Equipped for business on James River, Va. T. F. ROGERS, Norfolk, Va.

WANTED. A PARTNER

in a well-established wagon manufacturing business, situated in a progressive Southern city of 20,000 inhabitants. \$6000 buys a half interval. Money is needed to increase the plant so as to take care of increasing business. For further information address W. P. H. care Manufacturers' Record.

FINE COTTON FACTORY SITE FOR SALE.

FINE CULTUM FAGIONT OILE IVE OFFICE CULTUM FAGION OF THE OFFICE OF THE OFFICE O

FOR SALE.

JULIAN M. BAKER, Tarboro, N. C.

TWO ACRES OF LAND

with 5-room dwelling; mill and gin house, 30x70, two stories; 55 H. P. engine and boiler; two 36-in. Nordyke mill under-runners, capacity 750 bus. good meal in 24 hours; four 60 saw gins and Thomas steam press, with all modern improvements, capacity 30 bales in 10 hours; side track at Georgia railroad depot.

Property originally cost \$7000. All in first class condition. Correspondence invited.

invited.

C. W. ENNIS, Milledgeville, Ga.

. 17

very

first

PECIAL Advertisements OF GENERAL Interest.

OPPORTUNITIES FOR INVESTORS.

A No. 1 Location for Cotton Mills & other Manufacturing Enterprises.

ADVANTAGES:

ton producing advantages as to climate invited in a construction and all the necessary requirements for a successful factory.

An Abundance of Raw Material.—The product of Bibb, Chilton, Shelby and Autauga counties, and a part of Perry, Montgomery and Dallas counties, could be concentrated at a maximum railroad haulage of not over forty miles. A great remaining the product of high-grade cutton is annually promatity of high-grade cutton is annually pro-

uantity of high-grade cotton is annual y pro-uced in this territ ry.

Ample Transportation Facilities. — The outhern Railway runs through the property for distance of one mile, and the Mo stgomery, Tus-aloosa & St. Louis runs through for three fourths

If a mile.

Accessible and Adequate Water Supply.—A arge, never-failing stream is within thirty yards of the railroad at an advantageous point with their good water sources close

Coal of good quality and sufficient quantity is nined within thirty miles of the place on both ines of the railroads above named.

Taxes are cheap (State and county) and no city as or license is laid.

or license is laid.

Ilding Material.—Sufficient quantities of and iumber for factories, houses, &c., can

rick and lumber for factories, houses, &c., can e made on the proper y.

The Finished Product can be shipped by com-citing lines to any part of the United States or to the Gulf coast for export.

Extent of Territory is about 300 acres, adapted or factory and building aites.

The advertiser shall be glad to answer all in-ulries and give detailed information.

JONCE L. GARDNER, Randolph, Ala.

SPECIAL COMMISSIONERS' SALE

Norfolk and Ocean View Railroad

8¼ Miles Norfolk to Ocean View; Standard Gauge; Electric Power;

ITS PROPERTY AND FRANCHISES.

or the Custom-House, No folk, Virginia, on Wednesday, the 23d Day of March, 1898, at 12 O'clock M., the above referred to property. For further information apply to W. O.L.D., CALDWELL HARDY, Special Commissioners, NORFOLK, VA.

GREAT BARGAIN!

FOR SALE.

The Madison Ice and Cold Storage Plant

At JACKSON, TENN.

Located on the N. C. & St. L. Railroad, between the M. & O. & I. C. Railroad, containing I e Plant, 16 tons capacity, and 6 cold storage rooms; Bottling Works—200 dozen soda and mineral water and 30 dozen beer; Canning Factory—10,000 cans per day. Also Machine Shop, with all teams, etc., complete.

Address C. G., care Manufacturers' Record, or at the Works.

WANTED.

To communicate with a party, capable of run-ning any kind of wood-working machinery in connection with ginnery and electric light plant, who has two thousand dollars or more to invest. Party to take charge of and operate the entire plant. A good opening for a competent man. For particulars address W. K. NETTLES, care The Magnolia Gin & Light Co., Magnolia, Miss.

VALUABLE WATER-POWER

e Piedmont section of North Carolina on uthern Railway and the South Yadkin Full copy of engineers report sent on

FRANK C. HAIRSTON, Co. Fork Church, N. C.

WATER POWER
FOR SALE.

Wateree River falls 5 feet through Wateree out canal, producing many thousand horse ower. Massive granite locks in good repair. our miles from railroad. Near Camden, S. C. Correspondence and inspection invited.

S. LOGAN LANG, CAMDEN, S. C.

FOR SALE.

Up-to-date Wheel Factory

in one of the best Southern cities. 5 railroads, Capacity 130 sets of wheels per day. 10,000 finished spokes per day. Best of material right at cour at cord-wood prices. Address

P. O. BOX L,

Meridian, Miss.

Knitting Mills for the South.

MR. W. G. MAXWELL, of the Wool Exchange Building, New York, one of the founders of Roanoke Rapids, N. C., and organizer of the first knitting mill company there, is prepared to introduce this industry at any favorable point in the South with the utmost speed and perfection.

The knitting mill at Roanoke Rapids has been a wonderful success, and is now running night and day.

The South is beginning to feel the competition of her own cotton mills, but the knitting industry has there a comparatively free field, and this is the ime to enter it with certainty of large

Mr. Maxwell will be pleased to correspond with individuals, corporations or municipal bodies upon the subject.

ATTENTION, MANUFACTURERS!

YARN, HOSIERY, KNITTING MILL

MILL or PLANT.

Situated in best portion of Piedmont section of Western North Carolina. Main building 100 by 50 feet, solid brick, siate mansard 100, five full stories, steam elevator, good power, plenty of cheap labor. Will put plant into a stock company, or against money or machinery, or both, to operate it in any good line.

Situated in a good town, with splendid climate, water, electric lights and railroad facilities. Full particulars by addressing

PLANT_care Manufacturers' Record. MILL or PLANT.

Twenty ton daily. Ice Plant for sale; first-class order; good as new; regular sale for full output; two machines, can be run separately; also Bottling Works can be run separately from the plant; sale too boxes daily; in Bessemer, Ala., the seventh city in population and the sixth in taxable values in the State; center of the great mineral district; 650 feet elevation; owner in bad health and must

evation; owner in bad health and mu business. Address H. O. MEUMANN, Bossomor, Ala.

MODERN Hundred Ton Capacity Oil Mill

FOR SALE.

FOR SALE.

Located in the best town in one of the best cotton producing counties in Texas in the heart of the black land belt, six thousand tons wagon seed and double the amount of railroad seed within a radius of fifteen miles Will sell controlling interest or all. The best located mill in Address
TEXAS OIL MILL,
care Manufacturers' Record.

A Good Chance for a Cotton Factory.

30 acres with ample buildings, one 100-horse-power steam engine and boiler. The above prop-erty is all new and is known as the Shreveport Fair Grounds. Address E. M. SMITH, Shreveport, La,

NOTICE.

We mine, manufacture, buy and sell all kinds of mineral paints, dry colors, minerals and clays. ALPHA PAINT AND MINERAL CO., 338 Bourse Building, Philadelphia, Pa.

For Sale at 50 Cents on the Dollar. Complete Modern Fertilizer Plant.

The Buildings which were erected specially for a Fertilizer Plant, are new and conveniently arranged. The

machinery is new and was constructed by well known designers and manufacturers of fertilizer appliances. It is in every particular of the

manulacturers of fertilizer appliances. It is in every particular of the LATEST AND MOST IMPROVED TYPE. The Plant is arranged for both, Acid Phosphate and Ammoniated Goods, and is in full running order. Now ready to be put at work at its full capacity. The Plant has a CAPACITY OF ABOUT 10,000 TORS per year in complete goods. The Territory within the scope of this Plant includes Delaware, Maryland, Virginia, New Jersey and Pennsylvania. About 500 tons are consumed yearly in the territory immediately adjacent to the works. TRANSPORTATION FACILITIES exceptionally good, both rail and water communication is convenient. The labor cost is low. This Modern Plant may be purchased for a comparatively small investment. We shall be pleased to open correspondence with any one interested in the trade.

WALKER & ELLIOTT, WILMINGTON, DELAWARE, U. S. A.

Incorporate Your Business.

West Virginia Laws Most Liberal. No Personal Liability. Non-Assessable Stock.

Plan mailed on application.

J. A. THAYER & CO., Attorneys,
Charleston, W. Va.

BY SPECIAL MASTER.

SPECIAL MASTER'S SALE.

MRS. MARY G. T. STEMPEL, Guardian,

THE NEW CONSUMERS' ICE COM-PANY, LIMITED.

No. 12:625, in the United States Circuit Court for the Eastern District of Louisiana, New Orleans Division— In Equity.

IN PURSUANCE OF DECREES RENdered Dec. 10, and signed Dec. 23, 1897, by the Hon. Don A. Pardee, judge of the United States Circuit Court for the Eastern District of Louislana, New Orleans Division, in the above entitled and numbered cause, and of an order granted by said court on the division of the product of the parties of the partie cause, and of an order granted by said court and to me directed, bearing date Jan. 24, 1898. I will sell at public outery to the last and highest bidder for cash on the premises, on Magazine street, between Julia and Girod streets, in the City of New Orleans, La., on MONDAY, THE 28TH DAY OF FEBRUARY, 1898, beginning at 11 o'clock s. m., the following described property, to-

FEBRUARY, 1898, beginning at 11 o'clock a. m., the following described property, to-wit:

1. A CERTAIN PIECE OR PORTION OF GROUND, with the buildings and improvements thereon, including all the machinery, engine, fixtures, apparatus and the appurtenances for the manufacture of ice therein contained, and all rights, ways, privileges and appurtenances thereunto belonging or in anywise appertaining, situated, lying and being in the First District of this city, in the square bounded by Magazine, Julia, Girod and Camp streets, and measuring two hundred and twenty-four (224) feet one inchront on Magazine street, the same width in the rear, by one hundred and seventy feet and five inches in depth, between parallel lines, according to a sketch or certificate under date of March 16, 1886, and annexed for reference to an act of mortgage from Consumers' Ice Company to W. J. Behan, before Andrew Hero, Jr., bearing date July 3, 1886.

2. A CERTAIN LOT OF GROUND, situated, lying and being in the First District of this city, in the square bounded by Camp, Magazine, Girod and Julia streets, being square No. 162. measuring, more or less, thirty (30) feet front on Magazine street by a depth between parallel lines of one hundred and sixty (160) feet, all French measurement, together with all the buildings and improvements thereon, rights, ways and advantages thereunto belonging or in anywise appertaining; the buildings and improvements designated by the No. 141 Magazine street by the aforesald depth of one hundred and sixty (160) feet, all French measure sixty (60) feet front on said Magazine street by the aforesald depth of one hundred and sixty (160) feet, the No. 141 Magazine street by the aforesald depth of one hundred and sixty (160) feet, between parallel lines, which larger lot of ground the congregation of the Roman Catholic Church of St. Patrick acquired from the Society of the Roman Catholic Church of St. Patrick acquired from the Society of the Roman Catholic Church of St. Patrick acquired from the Society of the Roman

Orleans, La.
ALCEE LE BLANC, Special Master.

ROBERT WARE GRASTY, Attorney and Counsellor-at-Law, EQUITABLE BUILDING,

ATLANTA, GA.

General law practice. Collections, loans, minvested, options secured and information furnished concerning Southern properties of all kinds.

AGENTS WANTED-To Sell the

"Battle Ax" Hay Press.

Latest invention, Automatic, Ball Bearing, Compound Leverage, Self Contained. No gear wheels or springs, Full circle, Simple in construction, efficient in service. Write, prices, discounts.

ALABAMA FOUNDRY & MACHINE WORKS, NEW DECATUR, ALA.

RADFORD, Virginia.

Parties desiring to start new enterprises or change location, are invited to investigate Radford, Va. Good climate, water and diainage, elevation, i800 feet. On Norfolk & Western Ry. at junction of Columbus, O., and Pocahontas Coal Fields divis.ons, as well as Southern connection via Knoxville, Tenn. In midst of fine agricultural country and 25 miles from ore fields Population, 4000, churches, public and private schools, electric light and car line. Ice plant and other manufactures.

nanufactures.

Responsible parties are offered inducements, actualing no city taxes for five years. Address

G. T. KEARSLEY, Secretary Board of Trade, RADFORD, VA.

FOR SALE. 7000 Acres of Yellow Pine Timbe Lands, on the Georgia Coast. Address W. A. WILLCOX, Darien, Ga.

26,000 ACRES OF LAND, From 4 to 16 miles from Summerville, S. C. a noted health resort, containing long and short leaf pine, oak, hickory ash, cypress, etc. Contains excellent farming and pasture land, and is convertible into a game preserve. Also second-hand machinery in good order. A. W. TAYLOR LAND & LUMBER CO. SUMMERVILLE, S. C.

21,000 ACRS Virgin Forest in best timbered section of West Virgin Forest of West Virgin Forest of West Virginia. Experts measured portions of this tract, and then measured the timber thereon, using Scribner's Lumber and Leg Book. Best acre measured 80,027 feet. B. M. thinnest acre, 19,964 feet; general average, 19,277 feet per acre, divided as follows viz: Hemlock, 19,016 feet; Spruce, 11,325 feet; Cherry, 2,778 feet; Maple, 2,077 feet; Birch, 1,212 feet, Sugar, 9,86 feet, Ash, 794 feet; Beech, 818 feet, and Cucumber, 270 feet. Total amount of merchantable timber on this tract (approximated)

863,962,000 FEET.
The Title is Guaranteed to be Absolutely Perfect
Price and terms very reasonable. Sworn statement of the experts and detailed information sent upon application to THE SOUTHERN REAL
ESTATE EXCHANGE, Clarksburg, W. Va.

FOR SALE. Mineral, Farming

Timber LANDS.

Can Supply following:

Beauxite Lands. Chrome Iron. Coal Lands. Coal Lands.
Copper Lands.
Cypress Lands.
Fire Clay.
Graphite Deposit.
Granite Quarry.
Iron Lands.
Kaolin Mines.
Mica Lands Mica Lands. Monazite Lands Nickel Lands. Tie Lands, Turpentine Lands.

Ash Timber Lands Black Cypress Poles Cement Gravel. Corundum Lands. Cotton Lands. Cedar Lands Farming Lands,
Gold Mines.
Hemlock Timber Lands Juniper Lands

Land for Colonies Manganese Lands marble Lands.
Orange Groves.
Phosphates, S. C.
Phosphates, Florida.
Pasturage Lands.
Palmetto Lands.
Rice Lands.
Shooting Lands. Marble Lands Shooting Lands. Tin Mine. Tan Bark Lands

E. WILLIS, CHARLESTON, & C

Foreclosure Sale

(TYREE & WILKINS, Auctioneers.)

W.

ney

e ·

),

0)

In the Circuit Court of the United States for the Western District of Virginia,

In Equity.

THE PEOPLE'S TRUST COMPANY OF BROOKLYN, Plaintiff, vs.

THE LYNCHBURG ELECTRIC COMPANY, Defendant.

In pursuance of a decree for foreclosure and sale, dated December 11th, 1897, and entered in the above entitled cause, in the office of the Clerk of the United States Circuit Court at Lynchburg, Virginia, on the 11th day of December, 1897, we, Randolph Harrison and W. D. Coleman, the undersigned, Commissioners in said decree named, will sell at public auction on the premises, in the City of Lynchburg, Virginia, to wit, at the power house of said defendant company on Jefferson Street in said city, on

Monday, February 28, 1898,

at 12 o'clock M. of that day, the property, rights and franchises mentioned in said decree and in the bill of complaint and in the deed of trust of the first day of December, 1892, from the defendant to the plaintiff, and described as follows in the decree aforesaid:

"(1) All the lands and tenements of the said party of the first part wheresoever located, including: (1) its real estate in the said City of Lynchburg, bounded by Park Avenue, Taylor and 7th Streets, with the stable, shops, plant and workshops thereon, it being the same property conveyed to it by the Lynchburg Street Railway Company by deed of the 28th of November, 1892, and (2) its (the grantor's) interest, whatever it may be, in that certain lot or parcel of land in the City of Lynchburg and bounded as follows: Beginning at the intersection of Jefferson and 10th Streets, thence with Jefferson Street toward 9th Street & feet to noth Street, and with the latter 132 feet, thence at right angles and parallel with Jefferson Street & feet to the beginning, it being a part of lot No. 467 in the plan of the City of Lynchburg upon which its power house is situated, and the same lot conveyed to the grantor by the Piedmont Electric Illuminating Company by deed of the 28th day of November, 1892.

"(2) Its line of street railway located over, in and along the streets of the City of Lynchburg, in West Lynchburg and the County of Campbell, all its sidings, tracks and connections, its privileges, leases, easements, rights, immunities and contracts, all its equipments, engines, boilers, dynamos, cars, horses, mules, wagons, stable, harness, tools, implements, machinery, plant, electric appliances, lamps, poles, wires, its contract or franchise to light the City of Lynchburg, or to furnish lights to the inhabitants thereof, and all its property, tangible and intangible, whether in possession or to come into possession, weight of the railway in operation is between 5400 franchise to light the City of Lynchburg for the operation of its street railway in operation i

interest, may bid for and purchase the said property, rights and franchises at the sale aforesaid.

Upon confirmation of the report of sale by the Court, and the compliance with the terms of sale by the purchaser, and payment in full of the purchase money, the undersigned Commissioners will execute and deliver a deed of conveyance to the purchaser, and the said purchaser shall then and there be let into the possession of the said property, rights and franchises, and shall be entitled to have and receive all books, maps, plans, papers, records and documents of the said Lynchburg Electric Company, or of the Receiver, relating and appertaining to the said property, rights and franchises. The Receiver in this cause is directed to remain in possession of the said property, rights and franchises, and continue to operate the said street railway and electric plant after the sale, and until a conveyance thereof, and if the sale shall be confirmed, the purchaser, on delivery of possession by the Receiver, shall be entitled to receive, and shall take, the said property subject to any gains or losses that may have accrued or been incurred subsequent to the day of sale.

Any further information desired will be farnished by the undersigned Commissioners, or by TYREE & WILKINS, the Auctioneers, No. 211 ght Street, Lynchburg, Va.

REE & WILKINS, the Street, Lynchburg, Va.
RANDOLPH HARRISON,
W. D. COLEMAN,
Commissioners.

January 1:th, 1898.

ESTABLISHED 1879.

J. ANDERSEN JUN & CO.

COPENHAGEN, DENMARK,
Agency and Commission Merchant.

Cash advanced to any amount on consignments First-class American references.

WANTED.

Machinery to Manufacture

We have a thoroughly equipped Machine shop, Carpenter Shop and Foundry, and can do all classes of Machine Work very reasonable. Try us.

SOUTHERN FOUNDRY & MACHINE WORKS, FREDERICKSBURG, VA.

Master Commissioners' Sale.

The Mercantile Trust and Deposit Company of Baltimore

VS.

Brunswick Light and Water Company.

UNDER and by virtue of a decree in the Circuit Court of the United States for the Eastern Division of the Southern District of Georgia in the above-stated cause rendered on May 12th, 1897, and supplemental decree in said cause rendered by said court on January 10th, 1898, we will sell to the highest bidder at public outcry before the court house door in Brunswick, Georgia, on Saturday, February 26, 1898, between the hours of ten o'clock A. M. and four o'clock P. M., all of the following described property, assets and franchises of the Brunswick Light and Water Company as an entirety, to wit: All of the real estate, buildings, implements, machinery, outfit, equipment, water works, gas works, electrical works, mains, pieps, hydrants, meters, retorts, furnaces, pumps, belonging to the water, gas and electric plants of the Brunswick Light and Water Company, situate in the City of Brunswick, Glynn County, Georgia, together with all other property, privileges and franchises of said Brunswick Light and Water Company, situate in the City of Brunswick, Gilland Mater Company, with the rents, earnings, revenues and profits, and especially the rentals for gas, water and electric lights due and payable by the Mayor and Council of the City of Brunswick, together with all choses in action belonging to said Brunswick Light and Water Company and for a more particular description of the said properties herein advertised to be sold reference is made for description in detail to the mortgage from the Brunswick Light and Water Company to the Mercantile Trust and Deposit Company to the Mercantile Trust and Deposit Company of Baltimore, dated the first day of April, 1890, recorded in Book Vol. 3 of mortgages, at folio 337, of the general records of Glynn County, Georgia, a copy of which is filed as an exhibit in the above-stated cause.

The terms of sale to be as follows: The successful bidder, at the time the property is knocked down to him, or within one hour thereafter, to pay to the Master Commissioners in the Repiration of the C

the purchase price or preform the requirements of said decree.

The application of the fund arising from the sale shall be as provided in said decree of May 12th, 1897.

All claims against the Receivership or claiming preference over the mortgage debt foreclosed by said decree shall be presented by intervention in said cause within thirty days after the delivery of the property to the purchasers or be forever barred from participation in the proceeds of sale. For the further particulars of said properties so to be sold and of the terms of said properties so to be sold and of the terms of said reference is hereby expressly made to said decree of May 12th, 1897.

ALEXANDER PROUDFIT. W. E. BURBAGE,

Master Commissioners,

Bargains in Machinery FOR IMMEDIATE DELIVERY

CORLISS ENGINES 125, 150, 275, 300 H.P. FOR SALE. 300 H.P. Armington & Sims, 100 H.P. Payne Engine; also Second-Hand Boilers in sizes from 40 to 125 H.P. 80 to 100 engines in stock to select from. Advise us of your wants.

S. L. HOLT & CO. 67 SUDJURY STREET, BOSTON, MASS.

SECOND-HAND ENGINES FOR SALE CHEAP

AMERICAN ENGINE CO.

BOUND BROOK, N. J.

SPECIAL BARGAINS.

We have on hand

Twelve Good Standard Gauge Locomotives, thoroughly overhauled, complete in every detail; ready for immediate ser-vice. Various styles and sizes. Prices ery low. For full particulars apply

POULTERER & CO.

| Control | Control

**BOR SALE

8 3-ft. gauge Locomotives.
1 Standard gauge Locomotive.
2 1½-yard Steam Shovels.
5 3-ft gauge 3 yard Dump Cars.
25 new 3-ft. gauge 2½-yard Cars, for shovel or and work.
5 side and centre Unloading 3th.

uand work.
5 side and centre Unloading Plows.
1 Leveling Car with plow.
10 Holsting Engines.
6 Centritugal Pumps.
Large stock of Engines, Boilers and Steam

THOMAS CARLIN'S SONS, ALLEGHENY, PA.

PIPE BARGAINS.

4, 6, 8, 10, 12 and 20 Inch.
For Water, Gas, Steam, Air and Oli
Write for particulars and prices to

F. K. BOWES,

104 Dearborn Street, CHICAGO, ILL.

JUSTICE COX, JR.

552-554 Bullitt Bldg., Phila.,

Agent for

i Iron Company. Brier Hill Iron & Coal Company. Lebanon Valley Furnace Company.

There are large areas of land in every Southern State that have been made unproductive by unwise methods of farming. What to do with these lands to make them yield a revenue, and how to best bring them back to their normal fertility, are questions that will have authoritative and adequate treatment from time to time in the Southern States Farm Magazine.

BARGAINS sin New and MACHINERY.

Lathes from 12" to 48", Planers from 20" up to 60", 48", 54" and 60" Radial Drills, No. 2 Newton Milling Machine, No 2 Screw Machine, Shapers from 6" to 30". Boilermakers' Punches, Shears, Edge Planers, Rolls, Drills, Ezgines, Boilers, Pumpa and Dynamos.

FRANK TOOMEY, 131 N. THIRD ST., PHILA.

FOR SALE.

One Morgan Traveling Crane,

Ten tons capacity, span 45 feet 6 inches. In first-class condition.

THE WESTINGHOUSE MACHINE CO PITTSBURGH, PA

PITTSBURGH, PA.

FOR SALE.

L'NGINES for Blast Furnaces, Foundries, Converters and Rolling Mills. MILL TRAINS (3-high), \$6 in., 30 in., 20 in., 18 in., 12 in. and 6 in. SHEARS for Blooms, Billets, Plates, Sheets, Old Rails and Scrap. CRANES—Yale and Towne Pillar Crane (to-ton).; Jib Cranes, Iron and Wooden. STEAM HAMMERS, various sizes and makes. SQUEEZERS (Rotary). FLV WHEELS and BAND WHEELS, various sizes. Punches, Straighteners, Roll Lathe, Riveter, Machine Shop Tools, etc., etc. LOCOMOTIVES, various gauges, sizes and styles.

307 Smitheld Street, PITTSBURGH, PA. Sales Agt. BALDWIN LOCOMOTIVE WORKS, Philadelphia, Pa.

FOR SALE.

E. W. Motor, 7½ Horse-Power, 125 Volts. lotor, 5 Horse-Power, 250 Volts. ynamo, 150 Lights, 1:0 Volts, Edison.

CLARK ELECTRIC CO.

FOR SALE CHEAP.

Electric Motors in Stock.

LIBGING MOUIS IN SIOCA.

110 Volt—1, ½, ½, 1, 3, 3, 4, 5, 7½, 10, 15, 20, 25, 30, 35, 60, 75 horse-power.

220 Volt—4, ½, ½, ½, 1, ½, 2, 3, 4, 5, 7½, 10, 15, 20, 25, 50 horse-power.

500 Volt—1, 2, 3, 4, 5, 7½, 10, 15, 20, 30, 35, 50, 75 horse-power.

All are of standard makes, principally Edison, Thomson-Houston, Westinghouse, Crocker-Wheeler, C. & C. and Eddy.

Send for our monthly Bargain Sheet, giving complete list, with prices; also on Dynamos, Arc Lamps, Instruments and Supplies.

CHAS. E. GREGORY COMPANY, 58-60-62 S. Clinton St. CHICAGO.

FOR SALE.

Five T. H. D. 62-500 volt compound wound generators with selfoiling bearings and complete station instruments, in first-class operating condition. Any one desiring to equip their factory with electrical transmitters of power will find these machines well calculated to serve either as motors or generators, being rated at 85 horse-power. Any one contemplating purchasing electrical machinery will be profited by communicating with us.

ROBBINS & MYERS CO. SPRINGFIELD, OHIO.

EDWARD J. ETTING.

IRON & STEEL,
Fidelity Building, Philadelphia, Pa.
Storage Yard—Old Navy Yard.

HEPAESENTING REPAESENTING HOlland Company Matthew Addy & Co. Irder and Tee Rails.

UNION MINING CO. Dayton Coal & Iron Co. 'Mt. Savage' Fire Brick PIG IRON.

YOU CAN SAVE MONEY

by buying your Dynamos, Lamps, Generators, Motors, etc., from us.
We carry a stock of Second hand Electrical Machinery, repaired and in first-class order. All
aratus guaranteed to be in excellent operative condition.
Central stations and isolated plants can turn acrap dynamos, wire and incandescent lamps into
h by writing to us.

THE CORNMAN COMPANY,

1136 Hamilton Street, CLEVELAND, ONIO.

C

SECOND-HAND RAILS.

If you have any old ralls—either in good condi-tion to relay, or if only fit to be used as scrap— advise us; we buy both kinds.

ROBINSON & ORR, 419 Wood Street, PITTSBURG, PA.

We Sell New Steel Rails and RELAYING RAILS.

RAILS and ROLLING STOCK

1500 tons 60 lb. Relaying Rails with Splices. 500 tons 56 lb. Relaying Rails with Splices. 1000 tons new Steel Rails, 48 lbs., with Splices and Spikes. 1000 tons new Steel Rails, 45 lbs., with Splices and

narrow gauge engines, flat and box salveston, Texas. Call or write.

ELOCK POLLAK IRON CO.
CINCINNATI, OHIO, or CHICAGO, ILL.
We are always in the market to buy relaying rails and scrap iron of all kinds for cash.

FOR SALE.

85 tens of 25-lb. TEE RAILS, 200 tens of 30s, 48 tens of 45s and 300 tens of 50s, with Fish Plates and Spikes; cheap; also 2-ft. and 3-ft. Gauge Locomotives and Cars. Write for par ticulars.

A. FOGG,

Relaying Rails, Locomotives and Cars for Sale.

When in the market please write us for prices, either for cash or on the monthly instalment plan: we sell either way. We handle steel and iron rails weighing from 12 lbs. to 60 lbs. per yard, both new and relaying. We can also furnish any size and style of locomotives and cars desired.

THE SMITH & KILBY COMPANY,
ANNISTON, ALABAMA.

Prompt Cash Paid

For Old Rails, Axles, Car Wheels and heavy Iron and Steel Scrap of all descriptions.

DALLETT & CO.
ut Place, PHILADELPHIA, PA.

High-Grade Bar Iron, Railway Supplies, etc.

RAILS and LOCOMOTIVES

We have a lot of RELAYING RAILS with fastenings, a loo 12-ton, 15-ton, 25-ton and 30-ton LOCOMOTIVES. If in the market for RAIL-WAY EQUIPMENT write us for prices and

SOUTHERN IRON & EQUIPMENT CO., Atlanta, Ga.

For Sale-Narrow Gauge Equipment.

I Baldwin locomotive, I passenger coach, I combination baggage and passenger coach, I box cars, 2 flat cars, 5 miles of light steel relaying rails from 16 to 30 pounds. Also 2 winter street cars and 3 summer street cars all in good condition. Also 2 new double flue boilers, 25 ft, long x48 in. circumference. Will sell cheap for cash. Write SABEL BROS., JACKSONVILLE, FLA

SIMPLE and COMPOUND LOCOMOTIVES

The motive power of the LAKE STREET ELEVATED RV. has been changed to Electricity. NONE OF THE ENGINES HAVE HAD 3 years of service. 2 pairs 44" Coupled Drivers. 4 wheel swing truck. Wrought center steel tired wheels. Total weight from 56,000 to 60,000 lbs. Fuel: Hard or Soft Coal, Coke or Wood. TANK CAPACITY. 750, 1000 and 2000 gals, Eamos Vacuum Brakes.

4 and o wheel switchers and 8 and 10 wheel engines in good condition. For full detailed specifications, prices and terms write

FITZ-HUGH & COMPANY, Equipment and Relaying Rail, Monadnock Building. CHICAGO, ILL. making inquiries about these engines, please Equipment and Relaying
1614 Monadnock Building. C.
In making inquiries about these
mention this paper

Either for Cash

SPECIAL SALE

Selected by our own experts from amongst some of the finest lots of Second-hand Equipment that have ever been offered by any of the Leading Trunk Lines of this country.

The larger part of the Passasenger Care are Equipped with Four and Six-Whoeled Trucks, Westinghouse Air Brakes, Janney and Miller Couplers, Plush Seats, Spear Heaters, Bronze Trimmings and all modern Improvements. For Specifications, Photographs,

Prices and Terms address.

NEW YORK EQUIPMENT CO., 80 Broadway, N. Y.

PASSENGER, COMBINATION and FREIGHT CARS

MEAVY PASSENGER and FREIGHT LOCOMOTIVES

HIGH-GRADE LOCOMOTIVES.

York Elevated Railroad and

New York Elevated Railroad and Brooklyn Bridge Locomotives.

These Locomotives are Standard Guage, until recently in service on the above-mentioned railroads, being su table for use on Logging and Suburban roads, and for switching purposes.

They have been discontinued from service because of the introduction of electricity and the replacement by heavier locomotives; therefore, not effered for sale on account of their inefficiency. They are all in thoroughly good condition, and expert examination is invited. For prices and illustra ed descriptions address

BENJAMIN WATSON,

NEW YORK CITY. RELAYING STEEL RAILS.

Relaying Rails.

econd-hand equipment and light new Steel Rails. L. K. HIRSCH, 549 Rookery Bidg., Chicago.

Relaying Rails.

2000 Tons of 60-lb. Relaying Rails, From the New England R. R.

500 Tons of 50-lb. Relaying Rails, 150 Tons of 52-lb. Relaying Rails, From the Norfolk & Western R. R. Can be delivered most favorably in the South.

BENIAMIN IRON & STEEL CO., Buffalo, N. Y.
We are always in the market to buy or sell old
aterial.

FOR SALE.

One Standard guage 22-ton Porter, saddle tank, switching locomotive, cylinders 12x18; 1 standard guage 15-ton Baldwin-Forney 1ype, 10x14; 1 3-ft. guage, 13-ton Shay geared locomotive; 1 3-ft. guage, saddle tank, 9-ton Porter, cylinders 8x12; 3-ft. guage, 13-ton saddle tank Porter, cylinders 10x14; 1 3 ft. Baldwin Mogul, 18-ton, cylinders 10x14; 1 3 ft. Baldwin Mogul, 18-ton, cylinders 10x14; 1 3 ft. Baldwin Mogul, 18-ton, cylinders 10x18; 10x10ns 30-lb. inon rails in Tennessee; 250 tons 25 and 30-b. rails in Louisiana; 20 second-hand logging cars 2-ft. guage. Write for prices

ns 25 and 30-0, Tails in Louisiana; 20 second-ind logging cars, 3-ft, guage. Write for prices.

#ASKINS WILLIAMS & CO.

16 Morris Ave., BIRMINGHAM, ALA.

Wanted—Relay Rails and Scrap Iron for Cash.

RAILROAD EQUIPMENT for Sale

Relaying Rail and Splices, Locomotives, Coaches and Freight Cars.

HICKMAN, WILLIAMS & CO. LOUISVILLE, KY.

FOR SALE.

Several Shay Patent

Logging Locomotives.

logging lo M. MITSHKUN & CO.

STEEL RAILS

FOR SALE.

NEW STEEL RAILS, all weights. CASH OR INSTALMENT PLAN.

RELAYING and SCRAP RAILS Bought and Sold.

Several Standard Gauge Dummy Locomotives, Suitable for Logging and Suburban Railways.

THE STEEL RAIL SUPPLY CO.,

Successors to HUMPHREYS & SAYCE,

100 Broadway, NEW YORK, N. Y.

THE SOUTHERN STATES FARM MAG-AZINE is unquestionably and incomparably mical and effective channel through which the seller of Southern lands may reach the attention of the Northern buyer of such lands.

Or on Easy Terms.

HOOPES & TOWNSEND.

Philadelphia, Pa.

MAKE

BOLTS

Square and Hexagon Heads.

3/16 in. x 3/8 in. to 6 in. x 16 ft.

MINING, LOGGING, PLANTATION, CONTRACTORS' and SMALL CARS OF ALL KINDS.

Wheels, Axles, Irons, &c. Send for Catalogue. GEO. PEACOCK, Selma, Ala.

S. ECCLES, Jr.

YELLOW PINE LUMBER.

CYPRESS, Etc.

Manufacturers' Record Building, Baltimore, Md.

LYON & CO

Room 55, MANUFACTURERS' RECORD BUILDING.

N. W. Cor. Lexington and North Sts. BALTIMORE, MD.

Yards, INDIANAPOLIS, IND

CE & COMPANY, BALTIMORE, MD. CLARKSBURG, W. VA.
rs of Oak, Etc., For Foreign and Domestic Markets.
Agents for Pardee & urtin Lumber Co.'s BAND SAWED POPLAR, ASH, WALNUT, CHERRY, ETC.

Cable "HEALD."

PRICE & HEALD.

Wholesale Dealers and Manufacturers

HARDWOODS & POPLAR

Sawed or in the Log, for Domestic or Foreign Trade.

Yards, Locust Point. Branches: Grafton, W. Va., Bristol, Tenn.

Office, Manufacturers' Record B

BALTIMORE, MD.

WEST PASCAGOULA CREOSOTE WORKS,

West Pascagoula, Miss.

Situated on Pascagoula Pay and on the line of the Louisville & Nashville Railroad.

These works have been in operation for more than than twenty years, were recently entirely rebuilt and enlarged, and are now prepared to execute all orders for creosoted piles and timber thoroughly appregnated with dead oil of coal tar. New cylinders 115 feet long. Capacity one million feet per month. Address

J. N. HUSTON,

Supt. West Pascagoula Creosote Works, West Pascagoula, Miss.



PINOLINE WOOD PRESERVATIVE.

Highest Antiseptic Qualities. Insoluble in water

PILES, LUMBER and CROSSTIES

Treated with Dead Oil of Coal Tar

PINOLINE ROOFING PAINT.

Durable, Elastic and Cheap.

Fernandina Oil & Creosote Works, Fernandina, Fla.

VENEERS AND HARDWOOD LUMBER.

Mahogany and Foreign Woods,

Manufacturers of DOMESTIC & FOREIGN

Hardwood Lumber and Veneers,

The E. D. Albro Co.

VENEER CUTTING AND BAND SAW MILLS.

CINCINNATI, O.

EASTERN BRANCH, Corner Sixth and Lewis Streets, E. R., New York

XUM



SEND FOR CATALOGUE

The Wells Light Mfg. Co.

No. 44 Washington St., New York City.

Gentlemen:—It is contrary to our rule to give testimonials, but an article with the merit of your Wells Light desrves to be made an exception. We have used your lights for the past five years, and consider them indispensable to us.

Yours very truly.

to us. Yours very truly, Ross-Mehan Foundry Co. P. A. Brawner, Sec. & Treas.

UNAFFECTED BY WEATHER.

Especially adapted for Contractors, Quarries, Shovels, Railroad Construction, Dredges, Bridge and Dock Builders, Water Works, Brick Yards and Coal Docks.

500 Contractors and 450 Railroads now use the

WELLS LICHT.

THE WELLS LIGHT MFG. CO.

EDWARD ROBINSON, Sole Proprietor.

Cor. Washington and Morris Streets, NEW YORK.



COAST & MAULE. PHILADELPHIA, PA.

WROUGHT-IRON PIPE AND FITTINGS, BRASS WORK AND TOOLS, BRASS AND IRON RAILING FITTINGS, "AMERICAN" SELF-PACKED UNIONS,
"SKELETON" STOCKS AND DIES,

STEAM GLUE HEATERS, STEAM RADIATORS AND COILS.

SEND FOR CATALOGUE.



THE ROBINSON

"they lubricate more, and outlast other oils."

High-Grade,

Cylinder, Engine, Spindle, Dynamo Oils.

Oils for all types of Machinery. **GREASES.**

WM. C. ROBINSON & SON, BALTIMORE, MD. 217 South Street.

R. S. DODSON, Proprietor.

R. A. DODSON, Manager.

New Atlantic Hotel

Rates, \$2.50 to \$4.00.

NORFOLK, VA.





TAGS and LABELS on GENUINE COVERT SNAPS, WEB GOODS, ROPE GOODS and CHAIN GOODS bear the above TRADE-MARK. These goods are sold by all LEADING JOBBERS at manufacturers' prices.

Covert Mfg. Co. West Troy, N. Y.

JACKSON MANUFACTURING CO.

Harrisburg, Pa., U. S. A.



Manufacturers STEEL BARROWS . . of . .

For Mills, Furnaces, Mines, Farms, Railroads.

MINING CARS, CHARGING BARROWS, WIRE ROPE THIMBLES.

Orders received through any reliable commission house

Incorporated 1866.



Charter Perpetual.



Issues Policies of Insurance after a Careful Inspection of the Boilers, Covering all Loss or Damage to Boilers, Buildings and Machinery, and Damage Resulting from Loss of Life and Personal Injuries Caused by Steam Boiler Explosions.

Full information concerning the plan of the Company's operations can be obtained at the

COMPANY'S OFFICE, HARTFORD, CONN., or at any Agency.

J. M. ALLEN, President. W. B. FRANKLIN, Vice-Prest. J. B. PIERCE, Secretary. FRANCIS B. ALLEN, 2d Vice-Prest. E. J. MURPHY, M. E., Consulting Engineer.

RERAL AGENTS IN THE SOUTH. LAWFORD & MCKIM, C. C. GARDINER, LOUIS V. CLARK & CO., W. S. HASTIE & SON, PETER F. PESCUD, BALTIMORE, MD., St. Louis, Mo., BIRMINGHAM, AL





Sheet Metal Tools.

ROLLERS,

SHEARING MACHINES,

TINNERS' TOOLS.

DIES. SPECIAL MACHINERY,

MADE BY THE

Niagara Stamping & Tool Co. BUFFALO, N. Y.

Catalogue M will be sent free on application.

ROOFING

Asphalt Floors, Driveways, Etc.

Estimates Furnished in any part of the Country.

Warren Chemical & Mfg. Co.

Established 1855. Incorporated 1858.

Importers and Refiners of Trinidad Asphalt,

Distillers of Coal Tar,

Manufacturers of Roofing and Paving Materials,

Also Contractors for . . .

Asphalt Roofing and Flooring,

Pitch and Gravel Roofing,

Brick and Tile Roofing.

BRANCH OFFICES:

BOSTON, NASS.: 12 Pearl Street. UTICA, N. Y.: 55 Mann Building. ROCHESTER, N. Y.: 343 Powers Building. BUFFALO, N. Y .: 742 Guaranty Building. CLEVELAND, O.: 325 Cuyahoga Building. DETROIT, MICH .: 91 Moffatt Building. TOLEDO, O.: 103 The Nasby. CINCINNATI, O.: 64 Blymyer Building. TORONTO, Ont.: 157 Bay Street.

81 and 83 Fulton Street,

NEW YORK, U. S. A.

ART METAL WORK

Bank and Office Railings. **ELEVATOR ENCLOSURES** SER MISS rire Cloth, Coal and e Screens. Barbell d Plain Wire, Wire ills and Staples.

SAYLOR WIRE CO.

Metal Work for Interior & Exterior Decorations A SPECIALTY. Write for Catalogue.

Sheet Metal Working Machinery.



BERTSCH & CO., CAMBRIDGE CITY

THE TOLEDO MACHINE & TOOL CO. TOLEDO,



Complete Outfits for Bicycle Stampings, Can Making, &c. Send for 1997 Catalogue.

C. HANIKA & SONS. Architectural Iron Works,



urers of Iron and Wire Fencing, Structural and Ornamental Iron Work.





ORNAMENTAL WIRE WORKS DUFUR & CO.

311 North Howard Street, BALTIMORE

Sheet Metal Working

MACHINERY

See large ads, in last and next issu J. M. ROBINSON & CO., Cincinnati,

Steam or Horse-Power.

GEORGE CARNELL, 1819-1821 Germantown Ave., cor. 5th,

PHILADELPHIA, PA.

LANCASTER, PA.

OHIO BRICK and TILE MACHINES Unequaled for PAYING and

Six sizes. Capacity 50,000 to 60,000 daily.
Drain Tile, Hollow Building Blocks, etc. Pug Mills, Clay Crushers, Sh Belting, Cartin Send for Catalogue. E. M. FREESE & CO., Gallon, Ohio, U.S.A.

Wire Nails

All Sizes and Kinds.

MANUFACTURERS IN THE WORLD.

Barb and Plain®

Fencing, Staples, Calvanized and Copper Wire, Etc.

Consolidated Steel and Wire Co., Pittsburgh, Pa.

Southern Office and Warehouse, Louisville, Ky.



PLATT, MANLEY, QUAY and CLARKSON,

At the St. Louis Convention, opposed the people's demand for William McKinley for President. Many paint manufacturers have a hobby of their own, as did the above big four. They make one specialty with a fanciful name and fancy price. We gladly grant the people's demand for only high-grade Leads, Carbon, Oxide, Graphite and Asphaltum Paints, in all forms for all needs, which are sold at their commercial value. Write for samples and quotations, which are based on current cost of raw materials.

NATIONAL PAINT WORKS, WILLIAMSPORT, PA.

PITTSBURGH PLATE GLASS CO.

LARGEST PRODUCERS OF PLATE GLASS IN THE WORLD.

Manufacturers of Polished Plate and Silvering Plate of all thicknesses. GLASS BENDING A SPECIALTY.

SKYLIGHT AND FLOOR GLASS.

Work n and

B

IND.

ORKS

49-53 LaFayette Place.

Boston: 30 Sudbury St.

Philadelphia: 1012-1018 Filbert St.

Chicago:

Cincinnati: IIS-II7 W. Front St.

12th & St. Charles Sts.

Minneapolis: 124-128 N. 34 St.

138-140 Jefferson Ave

THE NEW COLUMBUS BRIDGE CO.

——COLUMBUS, OHIO.— Railway and Highway Bridges, Roofs, Girders, Turntables Special Forgings, etc.



RAW-HIDE

Is absolutely the Strongest and Best Water-proof Paper made for Rooting and Siding.

C. S. GARRETT & SON, Paper Makers,

12 and 14 Decatur Street,

PHILADELPHIA.

Foundry Equipments and Supplies.

ROOFING.



NOBODY

Cares for eulogistic praise of an article offered. Its the *latriasic merit* or value t possesses that interests. That's why our hand-dipped

GALVANIZED SHEETS

are so popular with the trade. Write for Special Catalogue and Discounts.

THE CORRUGATING OMPANY.

EXPANDED META

Box 377. PIQUA, OHIO.

THE P. & B. RUBEROID **ROOFING SHOWS ITS** TRUE VALUE. IT CONTAINS NO TAR OR ASPHALT AND IS NOT PAPER. THE BEST OF FELT IS ITS FOUNDATION AND

WHEN EXPOSED TO SEVERE CONDITIONS

IT IS ABSOLUTELY ACID, ALKALI AND WATERPROOF. STRONG.

DURABLE AND EASILY APPLIED, FOR USE ON DRY KILNS,

FOUNDRIES. **FACTORIES**

AND FERTILIZER AND PHOSPHATE WORKS IT IS SPECIALLY RECOMMENDED.

WILL NOT RUN WHEN EXPOSED TO GREAT HEAT. WRITE FOR

PARTICULARS AND SAMPLES.

81-83 John St., NEW YORK. Chicago Office, 189 Fifth Ave.

J. W. PAXSON CO. 1021 N. Delaware Ave., PHILADELPHIA.

The best Red Rope Roofing for I cent per square foot, caps and nails included. Substitutes for plaster and siding. Samples free.

THE FAY MANILLA ROOFING CO. CAMDEN, N. J.

NATIONAL ROOFING & SUPPLY CO.

LOUISVILLE, KY.

Gravel Roofers,

Cement and Ashphalt Pavers,

Building Papers,

Two and Three-Ply Ready Roofing.

Canvas Back Rope Roofing & Put up in 500 ft. and 250 ft. rolls, 36" wide Sheathing Tin caps and nat's packed in each roll.

Waterproof. Air Tight. Durable.

plete line of Building and Sheathing Papers

GARRETT-BUCHANAN CO.

3, 5 & 12 Decatur Street,

METAL.

PHILADELPHIA, PA.

. . SHINGLES

Cortright



SYSTEM OF FIRE-PROOFING covers a construction of light concr with imbedded sheets of heavy me fing strength for any requirement.

Expanded Metal Steel Plastering Lath

Is the standard metal lath in all markets. Used by the United States Government and all first-class architects throughout the world. Write for illustrated book containing full information, free by mail.

Northwestern Expanded Metal Co., - Chicago | New York Expanded Metal Co., - Southern Expanded Metal Co., - Southern Expanded Metal Co., - Washington Manhattan Concrete Co., New York and Boston | Merritt & Company, - Philadelphia

THE ARMITAGE MANUFACTURING COMPANY, Richmond, Va. GRAVEL, SLAG and COMPOSITION ROOFERS,

MANUFACTURERS OF
TWO AND THREE-PLY ASPHALT READY ROCFING.
for roofs of any description, water, acid and fire proof; more durable than metal, easily applied.
Tarred Felts, Building, Sheathing and Insulating PAPERS, Roofing Pitch, Paving Pitch, Ro
Paints and Roof Coating, Black Varnish, Ammonia, etc. Write for Samples, Prices and Catalogues.
Quality and Workmanship Guaranteed.

ROOFS LOOK THE BEST.

LAST THE LONGEST.

Write for Proc. Pro

NAILS and CEMENT.

JOHN GALT & SONS,

253 Broadway, • NEW YORK.
915 N. Y. Life Building, CHICAGO.
SLATE DRESSERS.

TOOLS and

STANDARD OIL COMPANY, (OF NEW YORK.)

GEO. H. HOPPER DEPT.

GRAPHITE PAINTS

Not affected by Heat, Cold, Acid or Water.

Also all kinds of Linseed Oil and ASPHALT PAINTS. NEW YORK. 26 Broadway,

THE STANDARD PAINT CO. Sole Manufacturers

Are recognized as the best, both in Construction and Material a used a a a a Cortright Metal Roofing Co. 0 N. 23d St., Phila. 134 Van Buren St., Chicago.

CLENDENIN BROS., BALTIMORE, MD.

ART STAINED GLASS .-- PAPIER MACHE.

CAPITALS, BRACKETS, MOULDINGS, FESTOONS ETC., ETC SOLE AGTS, FOR CHAS, EMMEL

L. GROSSE ART GLASS WORKS, 922 Penn Ave., PITSBURGH, PA.

T.H.BROOKS&CO.CLEVELAND, O. FLOOR&SIDEWALK LIGHTS. OF EVERY DESCRIPTION SEND 168 CATALOGUEL

Ky.

any th a

oon, lue.

Obtain Your Full Line From One Source.

AMERICAN

WOOD WORKING MACHINE COMPANY

SUCCESSOR TO

F. H. CLEMENT CO.

GLEN COVE MACHINE CO. C. B. ROGERS & CO.

LEHMAN MACHINE CO. YOUNG BROS. CO.

ROWLEY & HERMANCE CO. HOYT & BRO. CO.

GOODELL & WATERS.

THE LEVI HOUSTON CO.

WILLIAMSPORT MACHINE CO.

MILWAUKEE SANDER MFG. CO.

With Salesrooms at

109 Liberty Street, NEW YORK.

94 Pearl Street, BOSTON, MASS.

43 and 45 S. Canal Street, CHICAGO, ILL.

Church and Basin Streets, WILLIAMSPORT, PA.

CAN SUPPLY ANYTHING YOU MAY NEED.

TREVOR MFG. CO., Lockport, N. Y.

C HINGLE, HEADING AND STAVE

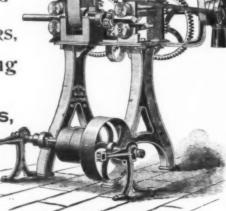
Machinery

HEADING SAWING MACHINES. **HEADING TURNERS.**

Veneer Cutting Machines.

STAVE CUTTERS

Shingle Sawing Machinery Shingle Machinery.



IMPROVED ROD AND DOWEL MACHINE

Heading, Shingles or Veneer Cutting, send for our catalogue y, send for catalogue "B." Please say where you saw this

10.000 OIL-BARREL ST



EVERY 10 HOURS.

See Circulars.

Baxter D. Whitney \$

WINCHENDON, - MASS

Subscribe to the Manufacturers' Record.

LANE M'F'G.Co. MONTPELIER, VT. WoodWorking Maghinery. SPECIALTIES LANE'S PATENT LEVER SET GIRCULAR SAW MILL. SAW MILL SET WORKS. CLAPBOARD MACHINERY. SHINGLE MACHINES. LATH MACHINES. SWING SAW RIGS. LOG JACKERS. WATER WHEELS.

Sweepstakes Planer, Matcher & Moulder

PLANING MACHINES.
MATCHING MACHINES.
GANG EDGERS.
PULLETS, SHAFTING.
HANGERS, ETC.



OVER 1500 SOLD.

It is the best four-roll combined Planer Matcher on the market today, and is highly recommended by all who use it.

Get in line and have one.

We will be pleased to make you quotations

Our 1897 Catalog is now ready for distribution

ROWLEY & HERMANCE CO., 300 E. Church Street, Williamsport, Pa,



Wood Worker.





CORDESMAN MACHINE COMPANY,

26 to 36 Butler Street, Cincinnati, Ohio, U. S. A

Makers of All Kinds of

PATENT WOOD-WORKING MACHINERY,

THE LEVI HOUSTON CO.

MONTGOMERY, PA., U. S. A.

Woodworking · Machinery

NOT EXCELLED FOR EFFICIENCY.

WOOD WORKING MACHINERY

of all kinds for Sash, Door and Blind Factories ning Mills, Furniture, &c. Also builders of Carpet Looms, Air Compressors, Bench Vises, Bicycles, &c.

H. B. SMITH MCH. CO., Smithville, Bar Co., N. J

WOODWORKING MACHINERY

Gooperage Machinery. Holmes Variable Speed Countershaft.

E. & B. HOLMES MACHINERY CO., Buffalo, N. Y.

"Ironsides" Two Saw Lumber Trimmer.

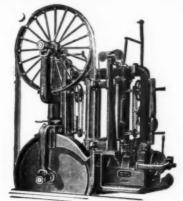
A model of perfection in design, construction and efficiency.

Our circular tells all about it.

CHATTANOOGA MACHINERY CO. 1318 Market St., Chattanooga, Tenn

SAW MILLS, GANG EDGERS, etc.

STANDARD SAW MILL MACHINERY CO. 911 E. 12th Street.



The Use of a Band Re-Saw

in connection with your Band Mill will double its capacity.

Many of the largest and finest mills in the South are using our No. 51/2 Re-Saw for that purpose, and the box factories use our No. 9.

Each machine is the Best of its kind for the purpose intended, practical operators testifying to that effect.

SHALL WE DESCRIBE THEM FURTHER TO YOU?



228-248 W. Front Street, Cincinnati, O.



or to the centre of 10 ins. Fifty-inch wheels.

Write for

Testimonials

Sixty inch wheels. Six-inch blade. WARRANTED FIRE-PROOF. Our Improved Detachable Steel Roller Bearing **LUMBER TRUCKS**

DRIES

No. 5% Band Re-Saw.

Re-Saws 36 ins. wide, 20 ins. thick,

or to the centre of 16 ins.

have four or more supports for the lumber in endway piling.

PATENT HUMID-PRESSURE DRYMLAS CHEAP, QUICK, FFF ICIENT, FCONOMICAL, DURABLE NEW RAPID DRY KILN COS 50000

That this is the original and

only process employing HOT WET AIR UNDER PRESSURE for seasoning Lumber-that literally boils the water from the wood-is established

by virtue of PATENT ALLOWED SEPTEMBER 12th, 1896. OTHER PATENTS PENDING.

MANUFACTURERS

MADE FROM FINEST

BELECTED STEEL.

SOLID TOOTH.

E. C. ATKINS & CO.

Indianapolis, Ind.

NATURAL CAS.

MANUFACTURERS



KINS' SILVER STEEL BAND SAWS TAKE THE LEAD.

E.C. ATKINS & CO. INDIANAPOLIS, IND.

Write for Sawyer's Hand Book of Saws and Saw Tools.

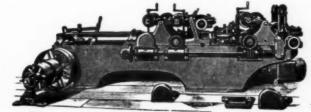
CIRCULAR, BAND, GANG, DRAG, CROSS-CUT, HAND AND SAWS OF EVERY DESCRIPTION. CYLINDER SAWS RE-STEELED

ERTED TOOTH.

GLEN COVE MACHINE CO., Limited. ORDESMAN,

PLANING MILL MACHINERY

FLOORING, MOULDING, SURFACING, SIZING AND TIMBER MACHINES.



Office, No. 50 BROADWAY New York City. WORKS, 24 TO 34 CLAY ST., BROOKLYN N. Y.

MEYER

WOOD WORKING



Agricultural Write for Circulars and

Furniture and Chair Factories,

Carriage, Wagon

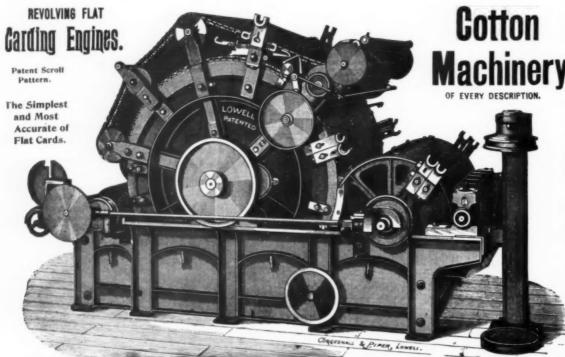
Catalogue free by mentioning the Manufacturers' Record. The DeLoach variable friction feed SAW MILLS, PLANERS, and SHINGLE MACHINES, HAY PRESSES, GRINDING MILLS, CANE MILLS, ENGINES, BOILERS, WATER WHEELS, ELEVATORS, Etc. Immense sales and good results. Why? Because they are THE BEST. Don't fall to call on us at the Tennessee Centennial.

mer.

CO.

etc.

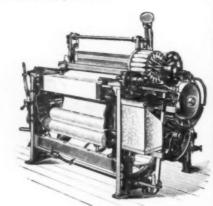
LOWELL MACHINE SHOP,



One prominent Southern mill

Northrop Looms

has promptly accepted the inevitable by ordering of us sufficient looms to



Replace all their common looms

although the latter are but five years old and in perfect condition.

DO LIKEWISE.

THE DRAPER COMPANY, Hopedale, Mass.

The Latest and Best

Looms, Harness Motions and Dobbies, Beaming, Spooling, Winding, Dyeing and Sizing Machinery, Power Transmitting Machinery, Freight Elevators.

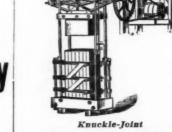
FAIRMOUNT MACHINE COMPANY,

Twenty-Second and Wood Streets, - PHILADELPHIA, PA.

J. A. GOWDEY & SON, Providence, R. I.

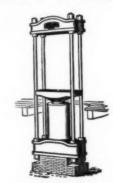
SIXTY YEARS ESTABLISHED. WRITE FOR PRICES.

HARNESSE





Knuckle-Joint Cloth-Baling and Finishing Press



Hydraulie Cloth Baling and Finishing Press.

G. H. BUSHNELL PRESS CO.

Thompsonville, Conn., U. S.A.

Somis N. D. Williams

test in the World. Send for Catalogue wite us for Delivered Prices.

H. F. hemis & Co. litd.

EW ORLEANS. La.

216 Seronce 29 FW ORLEANS, L ESTABLISHED 1965. Robert W. Gott

CYPRESS WATER TANKS

SMITH-COURTNEY CO.,

Richmond, Va. Southern Agents for the Improved Bates Corliss Engine From 50 to 1000 Horse-power. THE ENGINE for Cotton Mills and Large

Factories.

Also full line of Engines, Boliers, Iron and Woodworking Machinery and Pumps. Largest stock of Railroad, Mine and Mill Supplies in the South.

SCOTT & WILLIAM

Office & Works . 2079 E. Cumberland St.

N AUTOMATIC, PLAIN AND FAMILY.

double feed. Write for full particulars

Branson Machine Co., 506 St. John Street, Philadelphia, Pa



CHARLOTTE COMPANY. MACHINE

Pettee Machine Works.

NEWTON, UPPER FALLS, MASS.

Manufacturers of

Revolving Flat Cards, Coller Rallway Heads,

Coller Drawing Frames.

Sole Southern Agents for

Providence Machine Co.

PROVIDENCE, R. I.

The "Hill" Self-Balancing Roving Frame and with other latest improvements.

Crompton and Knowles Loom Works,

Looms for Weaving Fabrics of every variety and texture.

Agents for

Curtis & Marble Machine Co.

Cloth Shearing, Brushing, Singeing, Rolling, Folding, Measuring and Sewing Machines.

CHARLOTTE, N. C.

ENGINEERS, CONTRACTORS

and Dealers in

COTTON MACHINERY,

COTTON MILL EQUIPMENT, Electrical Machinery and Electrical Supplies.

A. T. ATHERTON MACHINE CO., Manufacturers of Pat. Cotton Openers, Opener Feeders and Lappers.

FALES & JENKS MACHINE CO., MARIN of Spinning and Twisting Tachinery, with Draper No. 2 and Sherman Spindles.

THE CORLISS STEAM ENGINE CO., Corliss Engines, High-Pressure, Triple Expansion, Com-pound and Condensing. Boilers, Heaters and Pumps.

JONES & LAUGHLIN'S Cold Rolled Steel Shafting, Compression Couplings, Hangers, Pulleys, Etc.

DELAHUNTY DYEING MACHINE CO.'S Dyeing Machines, for Dyeing Raw Stock, Cotton or Hosiery and Knit Underwear.

DRYING MACHINERY, for Drying All Kinds of Stock, Cotton, Wool, Yarns, Hosiery, Underwear and other materials.

HYDRO EXTRACTORS, Engine Driven or Belt

DAYTON GAS ENGINE AND TIFG. CO.'S Gas and Gasoline Englices.

Correspondence solicited in regard to all matters pertaining to our business.

Easton & Burnham Machine Co.

PAWTUCRET, R. I. Manufacturers of

Improved Upright Spoolers, Cop, Skein or Bobbin.

Doubling Spoolers. New Self-Oiling Spooler Spindle.

Special Southern Agents for

B. F. Sturtevant Co.

BOSTON, MASS. The Sturtevant Blower System,

Heating, Ventilating and Moistening Apparatus. Direct Current Generators and Motors.

The Western Electric Co's

Arc Generators

and Electrical Supplies.

Specifications and Estimates furnished for all kinds of Electrical Installations, including Power Transmission.

Cohoes Iron Foundry and Machine Co.

COHOES, N. Y.

Siashers, Size Kettles and Sizing Machinery.

Elevators and Hoisting Machinery.



CARVER COTTON GIN CO. EAST BRIDGEWATER, MASS., U.S.A.

Cotton Seed Hullers, Saw Filing Machines, Gummers, Cotton Gins.

Feeder.

LOOMS The SEACONNET MILLS, Fall River, wove in 303 days of 30 hours each, 14,329,239 yards of 64x84 goods on the 938 of our "NEW HIGH-Cotton and Silk Weaving.

KILBURN LINCOLN & CO. FALL SHOPE

KILBURN LINCOLN

CARDS.

FRAMES MASON MACHINE WORKS, COTTON MACHINERY,

MULES.

TAUNTON, MASS.

LOOMS.

UEEN CITY SUPPLY CO. Puchta, Pund & Co.

West Pearl Street, CINCINNATI, OHIO. PEALERS IN Factory, Machine Shop and Mill Supplies. Agent for B. F. Sturievant Co., Blowers and J. Rhausts; Boston Belting Co., Rubber Goods of all ainds; Jewel Belting Co., Leather Belt; Jno. A. Roeblings' Sons, Wire Rope; Grant Coundum Wheel Co. Emery Wheels: Magnolia Metal Co., Magnolia Babbitt Metal.



The American Cotton Oil Company

Cotton-seed Products

Oil, Cake, Meal, Linters, Ashes, Hulls.



















Petite Roche

For SOAP MAKERS and BUTCHERS' MACHINERY .-

ED ND

n

Steam Engines and Boilers.

Ice Machines. Open Hearth Steel Foundry Equipment. Water Works.

COTTON

Rolling Mill Work Valves and Cocks For Heavy Pressure Cranes and Accumulators. Steam, Water and Ammonia Fittings. Iron, Brass and Steel Castings.

THE VULCAN WORKS, Chester, Pa.

Cottonseed Oil Machinery.

Tobacco Cutting Machinery BRASS GOODS

for Engine Builders, Steam, Water and Gas Fitters. Write for Catalogue.

BUCKEYE IRON & BRASS WORKS, DAYTON, OHIO, U. S. A.

Cotton Seed Oil Mills We are making Various Sizes, from the PLAN-TATION MILLS of five tons to the LARGE CITY MILL of 156 tons per day. Our Mills was all the Latest Modern Improvements in Machinery, and produce the very best results.

Hydraulic Cotton Presses SIMPLE, COMPACT and VERY POWERFUL. Worked either by Hand of Order and very durable. They are the BEST BALING PRESS made for Cotton, Wool, Rage, etc.

Threshers and Cleaners Simplest, Cheapest and Best Made.

THE CARDWELL MACHINE COMPANY RICHMOND VA.

CONVEYORS





EWART LINK BELTING.

SPROCKET WHEELS.

LINK-BELT ENGINEERING CO.

NICETOWN, PHILA.

49 Dey Street, NEW YORK.

Chain Elevators, Conveyors.





Waterman's Ideal Fountain Pen

STANDARD OF THE WORLD.

HATERMAN'S IDEAL FOUNTAIN PEN

The Waterman Ideal Fountain Pen is the best known and known to be the best fountain pen the world over. It is always ready and writes continuously without shaking; it has the best Gold pensithat can be made; and it is guaranteed to be satisfactory or your money will be refunded.

L. E. Waterman Co., 155-157 Broadway, New York.

"THE STANDARD" SCALES

R. R. Track Scales of Largest Capacity. Strictly High Grade.

THE STANDARD SCALE & SUPPLY CO., Limited, Manufacturers, Pittsburgh, Pa.

THE COLUMBIA WATER POWER CO., COLUMBIA, S. C.

UNLIMITED ELECTRIC POWER

large or small units for manufacturing purposes. Columbia is in the centre of the cet-in producing country. Low freight rates to all points. An ideal manufacturing location. GEORGE WALLACE, General Manager, Boston Office, 53 State St., Room 608. WM. C. HAWKINS, Managing Engineer, Columbia, S. C.

Wire Rope Tramways; Iron and Steel Wire

TRENTON IRON CO., TRENTON, N. J.

New York Office, COOPER, HEWITT & CO., 17 Burling Slip. Chicago Office, 1114 Monadnock Building.

Established

STEEL AND GALVANIZED



For Shafts, Quarries, Elevators, Ferries, &c. THE HAZARD MFG. CO., General Office and Works, WILKESBARRE, PA-

THE PECK-HAMMOND CO.

Formerly THE PECK-SMEAD COMPANY.

Heating, Ventilating and Sanitary Engineers, HOME OFFICE, - CINCINNATI.

Operating in the Southern States.

CINCINNATI MEMPHIS ANNISTON HOUSTON ATLANTA LYNCHBURG, VA

WE ARE HIGH GRADE EVERY PROCESS

FINE MACHINE ENGRAVING A SPECIALTY. PLACE NO ORDERS TILL YOU CORRESPOND

WITH US. WE ILLUSTRATE CATALOGUES COMPLETE. OR GET OUT SINGLE CUTS ON SHORT NOTICE

BROWN-BIERCE COMPANY. DAYTON, OHIO.

LOBDELL CAR WHEEL CO. Wilmington, Del.

CHILLED WHEELS.

See large advt. in first issue of mouth.

BUFFALO

TO CLEVELAND.

CLEVELAND and TOLEDO

Via "C. & B. LINE" Steamers "City of Buffalo," (new) 'State of Ohio" and "State of New York."

DAILY TIME TABLE.
SUNDAY INCLIDED FROM MAY 30 TO OCT. 3, 1897.
Lv. Buffalo, 8,30 P. M. I. v. Cleveland, 8,00 P. M.
Ar. Cleveland, 8,30 P. M. | Ar. Buffalo, 8,30 A. M.

Ar. Cleveland, 5,30 F. M. J Ar. Bullaio, 5,30 A. M.

RASTERN STANDARD TIME.

Take the "C. & B. Line" steaders and enjoy a refreshing night's rest when enroute to Gloveland, Toledo, Columbus, Clincinnati, Indianapolis, Detroit, Herthera Lake Resorts, or any other Ohio, Indiana or Southwestern point. Send 4 cents postage for tourist pamphiet. For further information ask your nearest Coupon Ticket Agent, or address

T. F. NEWMAN, W. F. HERMAN.

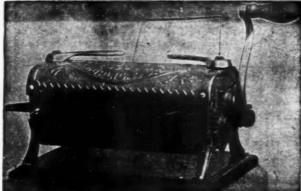
Gen'i Pass. Agt. Gen. Manager. CLEVELAND, OHIO.

O INTRODUCE CONSACE Let us taking, fore-reads. Newson & Weight time, \$24. LONDIER I let, toking biserrands. New Encounterins 210. Anny color, style, gear, height frame scanfed, "72 and '88 Medels, various majors and styles \$25 to \$16 Wheels, nightly used, modern types, and called Fare Section America ATONCE.

Y. A. MEAD CYCLE CO.

CHICAGO, ILL.





Hurry Up Copying Machine.

No Copy Books. No Wet Cloths. No Wet Brushes Always a clean, accurate, uniform copy.

We make the most complete and modern

LETTER CABINET FILE

in existence. Write for our illustrated catalogue

The Piqua Copying Machine Co. PIQUA, OHIO.

TLANTIC TBANSPORT LINE. NEW YORK, PHILADELPHIA and BALTIMORE to LONDON direct.

ade

h, Pa.

C.

re

S,

D.

O

Tons.
7600 Minnesota.
7600 Minnesota.
7600 Missouri.
7600 Missouri.
7600 Mentans.
6500 Maine. Tons. 5000 4250 4250 4250 4150 Massachusetts, Manitoba, Mobile, Mohawk, Mississippi,

Mississippi, 5000 Maine, 4100
BALTO. STOBAGE & LIGHTERAGE OO., 408-400 Water Street, Baltimore.

New York, I Broadway. Chicago, 234 La Salle st. Phila., 521 Bourse. St. Louis, 307% Pine st. Phila., 521 Bourse. St. Louis, 307 London, 108 Fenchurch st.

BALTIMORE, CHESAPEAKE AND RICH-MOND STEAMBOAT COMPANY.

"NEW BAY LINE,"

U. S. Mail Steamers Atlanta and Charlotte be-tween Baltimore and Old Point, Norfolk and the South.

South.

Leave Baltimore, from Pier 19, Light Street Wharf, daily (Sundays excepted) at 6.30 P. M., connecting at Norfolk with Southern Railway, Atlantic Coast Line. Norfolk and Western, Atlantic and Danville, Norfolk and Southern, and Norfolk, Virginia Beach and Southern Railroad. Leave Norfolk, daily, except Sunday, 6 P. M.

"YORK RIVER LINE,"
Between Baltimore and West Point and Rich-

mond.

Leave Baltimore every Tuesday, Thursday and Saturday at 5 P. M. Leave Richmond every Monday, Wednesday, and Friday at 4,30 P. M.
GENERAL OFFICES, 530 Light Street.
REUBEN FOSTER, E. J. CHISM,
General Manager. General Ticket Agent.

MERCHANTS & MINERS'

Transportation Company.

For BOSTON and the EAST—Every Tuesday, Thursday and Sunday at 4 P. M.

For PROVIDENCE and the EAST—Every Monday, Wednesday and Friday at 4 P. M.

For SAVANNAH and the SOUTH—Every Tuesday and Friday at 3 P. M.

For NEWPORT NEWS, NOBFOLK and the SOUTH—Dally (except Saturday), 4 P. M.

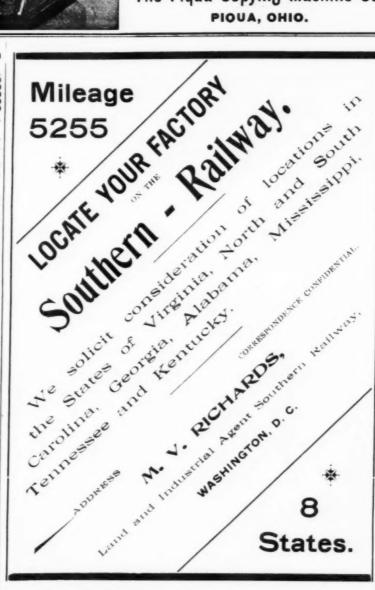
P. M.
Passenger Accommodation Unequaled.
Culsine the Best. Freight Capacity Unlimited; careful handling and quick dispatch.
O. R. GILLINGHAM, Agent, Long Dock.
A. D. STEBBINS, A. T. M.
W. P. TURNER, G. P. A.
J. C. WHITNEY, T. M.
General Offices—216 WATER STREET.

BALTIMORE STEAM PACKET CO. OLD BAY LINE.

Elegant Steamers Daily, except Sunday, from UNION DOCK (foot of Concord street) at 6.30 P. M.; Canton Wharf, 7.10 P. M., for OLD POINT COMFORT, NORFOLK, PORTSMOUTH and ALL POINTS SOUTH. Connect at Portsmouth with Seaboard Air Line solid train Portsmouth to Atlanta. Close connection at Weldon with Atlantic Coast Line. At Norfolk & Southern, Atlantic & Danville, and Norfolk & Western Railroads, and with Old Dominion Line for Newberne and Washington, N. C. At Old Point Comfort with Chesapeake & Ohio Railway for Richmond and points West.

Meals on European plan. Luxurious Staterooms, Electric Lights, Steam Heat. Berths free. Reserve staterooms in advance at Bay Line Ticket Office, 129 East Baitimore street. Telephone 1435.

JOHN R. SHERWOOD, General Manager.
WM. RANDALL, Gen. Fgt. and Pass. Agent.
E. BROWN, General Ticket Agent.
PAT. STEEL WIRE PIPE BENDERS.



"PROVIDENCE" WINDLASSES. CAPSTANS. Best in the World.

AMERICAN SHIP WINDLASS CO., Providence, R. I.

THE CLEVELAND WIRE SPRING CO., Cleveland, Ohio.

Oil Tempered Steel Springs for all purposes



Upholstery, Lounge. Bed and Chair Springs, etc. PAT. STEEL WALL TIES. This time last year

The Kansas City, Pittsburg & Gulf R. R. was not completed.

The dredging had not begun.

The population was thirty-five souls. Only a few buildings had been erected.

Within the past year

The Kansas City, Pittsburg & Gulf R. R. has been completed from Kansas City to Port Arthur, connecting the future seaport city of the Gulf with the district which produces 90 per cent. of the export and import food products of the United States.

Within less than one year we have completed nearly two miles of our seven and a-half mile canal.

In less than a year we have added 1400 to Port Arthur's population; put in extensive terminals; built a commodious passenger station; electric light plant; put a large addition to our hotel, "The Sabine"; built an export freight pier; sold over \$700, 000 worth of property; established two steamship lines, one to Liverpool and one to Mexican ports, and made the rapid growth of Port Arthur the marvel of the end of the century.

Port Arthur is the only active real estate market in the United

It is attracting attention of the entire country because it is the most logically located port in the United States.

GO SEE FOR YOURSELF.

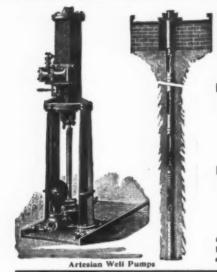
The only way to appreciate and understand Port Arthur and the influence behind it is to investigate personally.

For all information write to

F. A. HORNBECK,

Land Commissioner
Kansas City, Pittsburg & Gulf R. R.,
General
Manager
Port Arthur Townsite Company,

KANSAS CITY, MISSOURI.



MERON STEAM PUMPS.

Boiler-Feeding, Mines, Refineries,

Breweries. Tanneries,

Irrigating, Fire Purposes

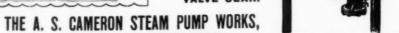
Railroads and **Filling Tanks**



SIMPLE, COMPACT. DURABLE, EFFICIENT.

ADAPTED TO ALL PURPOSES.

NO OUTSIDE VALVE GEAR.

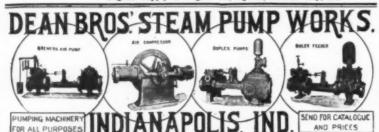


Mining

Pumps

THE SNOW STEAM PUMP WORKS,

Pumping Machinery





The

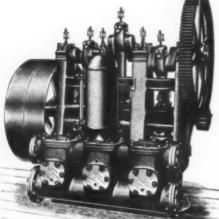
"THE CONTRACTOR'S FRIEND." Over 20,000 in Use

Imitated-Never Equaled. RECENT IMPORTANT IMPROVEMENTS.

Handiest, Simplest, and Most Efficient Steam Pump for General Mining g, Railiroa', Irrigating, Drainage, Coal-washing, Tank-filing, Pap'r Mill d Bridge Contractors' Purposes, etc., etc. Muddy or gritty liquids handle

PULSOMETER STEAM PUMP CO., 135 Greenwich St., New York.

SMITH-



For All Purposes.

Duplex and Single Steam Pumps. Triplex Pumps,

> LATEST AND MOST APPROVED DESIGNS. SINGLE and DOUBLE ACTING.

Single Condensers. Air Compressors.

HEAVY PRESSURE MINING PUMPS, Steam and Electrical.

OUR NEW CATALOGUE "C" GIVES PARTICULARS

THE STILWELL-BIERCE & SMITH-VAILE CO.

General Offices and Factory: DAYTON, OHIO.

BRANCH HOUSES:

21 Light Street, BALTIMORE, MD. 68 S. Canal Street, CHICAGO, ILL.

128 Liberty Street, 841 Carondelet Stre

PHILADELPHIA MACHINE

Machine

Foot of East 23d St., NEW YORK.

624--626 Race Street

and Studs

SCREW

PHILADELPHIA, PA.

Mine Pumps OUR

SEND FOR OUR ILBUSTRATED CATALOGUE.

JEANESVILLE IRON WORKS CO. (Incorporated), Jeanesville, Pa.

Western Office: 1116 Seventeenth Street, Denver, Colo.



Air Compressors

Air Compressors

for Rock Drills, Coal Cutters, Air Hoists and Pneumatic work generally.

Pressure Pumps

Steam Pumps,

Single and Duplex, of all sizes and for all purposes.

Duplex and Triplex POWER PUMPS.

HALL STEAM PUMP COMPANY, Pittsburg, Pa.

PERRY ANDREWS & BRO.

Artesian Well Contractor and Driller, Can Furnish Full Outfits and all Artesian Well Machinery, 19 Morrison Ave ATLANTA, GA



WELL DRILLING MACHINERY. WILLIAMS BROTHERS, Mounted and on Sills, for deep or shallow wells, with steam or horse power. Send for Catalogue.

Williams Brothers

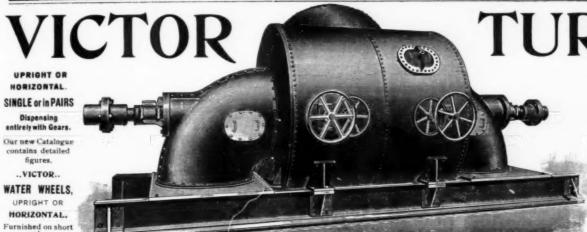
ITHACA, N. Y.

Of all kinds for automatically controlling Steam, Water and Air Pressures.

SEND US YOUR PROBLEMS. Mason Regulator Co., Boston, Mass.

THE JOHN H. McGOWAN CO.





The Cylinder Gate Victor Turbine is beyond question the Most Powerful, Most Durable and Efficient Water Wheel manufactured.

Some Recent Southern Patrons:

fton Mfg. Co., Piedmont Mfg. Co., Campe own Mfg. Co., Whitney Mfg. Co., Pelser Mfg. Co., Enoree Mfg. Co., Henrieta Mills, Pacolet Mfg. Co., The Co-lumbia Cotton Mills Co., The D. E. Converse Co. and others.

State your requirements and send for catalogue to

General Offices and Factory, DAYTON, OHIO.

THE STILWELL-BIERGE & SMITH-VALLE GO., BRANCH HOUSES: \ 21 Light Street, BALTIMORE, MD.

123 Liberty Street, National Street, CHICAGO, ILL.

124 Liberty Street, National Street, CHICAGO, ILL.

123 Liberty Street, NEW YORK. 341 Carondelet Street, NEW ORLEANS, LA.

Water Wheels & Motors.

Impulse Wheels or Turbines to Suit Requirements of every case; Large Mills, Transmission, Railway and Lighting Plants or Power in Small Units for Domestic or other purposes.

Catalogue, Drawings and Quotations sent on application.

American Impulse Wheel Company of New York,

120 Liberty Street, New York.

RAND AIR COMPRESSORS

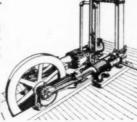
For All Purposes and of All Sizes. SIMPLE. DURABLE. ECONOMICAL.

Our DUPLEX COMPRESSOR, Compound Air Cylinders, with Inter-Cooler and Compound Steam Cylinders, with Meyer Cutoff Valves, is the best construction for small and medium sizes.

Don't forget our ROCK DRILLS.



100 BROADWAY, NEW YORK



R. D. WOOD & CO.



ENGINEERS IRON FOUNDERS MACHINISTS

Manufacture Every Description of Cast Iron Pipe

MATHEWS FIRE HYDRANTS Eddy Valves, Indicator Posts, etc.

Hydraulic Tools and Appliances for Railroad Shops, Etc.



RURNHAM TURBINES...

-Upright and Horizontal

paranteed to give the most power for least amount of water and of any wheel on the market.

SPECIAL ANNOUNCEMENT.

NORRISH FOUNDRY & MCH. CO., BURNHAM BROS., Glen Rock, Pa. York, Pa.

The above firms having consolidated, the firm name hereafter will be

NORRISH, BURNHAM & CO., Inc.

SPECIALTIES—Burnham New Improved Standard Turbine, Norrish Roller Mills, Corn and Feed Mills, Regrinding and Corrugating Rolls, Power Transmitting Machinery.

Main Office and Works, Norrish, Burnham & Co., Inc., Glen Rock, Pa.

TROY, N. Y., U. S. A.



DOUBLE AND SINGLE GATE VALVES,

14-inch to 60-inch.

FOR LIGHT AND HEAVY PRESSURE,

Vertical 🗠 Horizontal Check Valves, Foot Valves, Air Valves, and Yard

and Wash Hydrants.





MUELLER Water

Regulator has been used since 1882 and has given the best

SEND FOR BOOKLET. "There's Money In It."
Tells all about it.

H. MUELLER MFG. CO. DECATUR, ILL.

S. MORGAN SMITH CO., York, Pa Hydraulic Engineers.
Manufacturers of

McCORMICK TURBINES.



Great Reduction

in Prices of

Steam Pumps

for 60 days only, for introduction purposes. If you need a pump soon, write at once to

Manistee Iron Works Co.

Manistee, Mich.

30 days trial allowed. Satisfaction guaranteed.



Tydraulic Rams.

The simple and effective operation of this machine, its great durability and usefulness in elevating water and conveying it to almost any desired distance, makes it one of the best apparatus ever offered. We would like to send you a circular fully describing its merits, and will be glad to do so if you will but write.

The Humphryes Mfg. Co. mansfield, O., U. S. A.

Hoists

and for

MPS.

Pa.

SS.

J. R. ALSING CO. (Inc.)

60 New Street,

Founded 1869 Correspondence Solicited

NEW YORK CITY.



PULVERIZER. The Latest and The Best

A Small Mill of Large Capacity. Used by all Sugar Refiners. No Bolting. Will Pulverize any material.

The Mecklenburg Iron Works will be glad to answer all correspondence leading to business from parties who need or expect to need machinery for handling

Gold, Iron or Cotton, as they have been manufacturing such machinery for thirty years, and are situated so as to give entire satisfac-Their address is Charlotte, N. C. tion.



ROLANAMAN & STONE, ENGINEERS & MANUFACTURERS, Phosphate Washers

ORE JIGS IMPROVED ORE WASHERS,
With Revelving Screens and Picking Table,
ORE ELEVATORS, CONVEYORS, Etc., Etc.
Working Hematite Ores at Least Costs.

THE

cCULLY

The W.J. CLARK CO., Salem, Ohio.

Elevating & Conveying Specialties Sole Manufacturers of the "SALEM" ELEVATOR BUCKET, for Mill and Elevator work, Ear Corn. Corn and Cobs, Ores, Coal, Broken Stone, etc. The Salem Bucket has ne equal.

GOLDEN'S FOUNDRY & MACHINE CO., Columbus, Ga.

Send for Price List | Angers, Shafting, Machine Moulded Pulleys.

COUPLINGS, PILLOW BLOCKS, FLOOR STANDS, COLLARS, &c.

A. & F. BROWN, ENGINEERS, FOUNDERS and MACHINISTS.

SHAFTING, PULLEYS. HANGERS, Etc.

Friction Clutch Couplings. Steam Sirens,

25 Dey St. New York



FOR COMPLETE TRANS-MISSION PLANTS FOR Cotton Mills.

Also for ERECTING SAME.

Creater than the Createst on Earth.

GUARANTEED to do more work with onehalf less power than any other Crusher now

Received two awards at the World's Columbian Exposition at Chi-cago, Medal and Diplomas. The only awards given for this type of Crusher.

Received an award and medal at the "Mid-winter Fair," San Francisco, Cal., and also First Premium, Diploma of Honor and Gold Medal at the Atlanta, Ga., Exhibition, 1895.

Send for Catalogue or further information

R. MCCULLY.

1324 CALLOWHILL STREET PHILADELPHIA

Fibre Graphite Journal Bearings

THE MANUFACTURING SUCCESS OF THE AGE.

Self Lubricating. Requires No Oil.



Hanger Boxes, Fan Bearings, Bearings in Dye Tubs, Motor Bearings,

BEARINGS FOR SPECIAL MACHINERY.

HOLMES FIBRE GRAPHITE MANUFACTURING CO., Station Z, Philadelphia.



H. C. LARRABRE

Caroline Iron Works,

BALTIMORE, MD.

Johnson Patent Pyrites Burner, Lump Furnaces, Acid Eggs. WRITE FOR PRICES

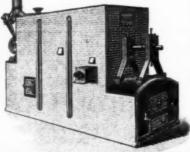
when in LEAD PIPE OR SHEET

For Sulphuric Acid Chambers

F. ABBÉ, Office, 804 Havemeyer Bidg., New York. Works, 26 Franklin Street, Brooklyn. CONSULTING and CONTRACTING ENGINEER for

Crushing, Grinding, Drying Machinery and Pebble Pulverizing Cylinders.

FOR ALL KINDS OF MATERIALS. DESIGNER and BUILDER OF MACHINERY for SPECIAL PURPOSES



Possesses Special Regulating Devices. nomically Handles Raw and Waste Products.

Manufactured R. DUNBAR & SON,

Chemical Engineers.

BUFFALO, N. Y.

Fertilizer and Phosphate Machinery A SPECIALTY.

es, Bollers, Saw, Corn and Cane Mills.

Packings, Pipe Fittings and Brass
Hangers. A full stock of Plumbing
ck of Supplies South. Lowest prices,
nos and large illustrated catalogue furnished upon application,
bitt Metal, the BEST for HIGH-SPEED machinery.

DHOSPHATE MACHINERY 🧸 SUPPLIES.

Engines, Bollers, 8aw Mills.

Shafting, Hangers, Wood Split Pulleys, Steam Fumps, Centrifugal Pumps, Steel Rails, Spikes and Fastenings, a Full Line of Railroad Supplies, and a Full Line of Bar Iron, Iron Pipe, Valves, Fittings, Rubber and Leather Belts. Agents for CUMMER'S DRYEE.

Write for our large Illustrated Catalogue. The Cameron & Barkley Co., Charleston, S. C.

Davids' Patent For Bones, Phosphates, Tanhare Ores, Clay, Fish, S rap, Salt Cake, eet. Fertilizer Machinery, Mixers' Rolls, etc., etc., Marchine Railways, Clay Tempcrers.

Disintegrating Mill.

Send your orders to The JAMES ROBERTSON MANUFACTURING CO., Baltimore, Md. JAMES MURRAY & SON, 102 TO 108 YORK ST., BALTIMORE, MD.



BECKLEY & CO., Garwood. N.

man-

ears. sfac-

Dhio.

Ities

ual.

one

now

t Chi-

ry

SES

ON,

its ls.





American Diamond Rock Drill Co.

Diamond Pointed Core Drills. 120 LIBERTY ST., NEW YORK.

STEAM ROAD ROLLERS.



THE O. S. KELLY CO.



"RUSSELL"

FOR CONTRACTORS, CORPORATIONS AND MUNICIPALITIES. RUSSELL & CO., Massillon, Ohio.

JULIAN SCHOLL & CO., Agents, 126 LIBERTY STREET

GREAT REDUCTION in PRICE of the Original



BOGARDUS Patent Universal Eccentric

WILL GRIND ANYTHING DRY OR LIQUID; HARD OR SOFT. uses mills are used for grading all kinds of substances, dry or l, and having been used for a number of years, are well known to ade and universally acknowledged as the Best Mill in the World. r lliustrated Catalogues and Frice Lists, apply to the sole manu-

J. S. & G. F. SIMPSON, BROOKLYN, H. Y., U. S. A.

Sole successors to J. W. THOMPSON, dec'd, late successors to JAMES BOGARDUS, "Patentee."

BEWARE OF IMITATIONS.

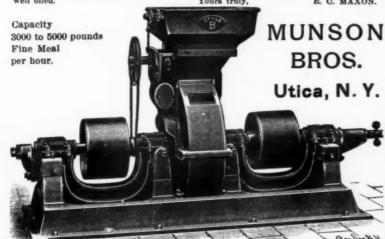
Robinson Patent Grinding Adams Centre, N. Y., September 16, 1896.

MESSRS. MUNSON BROS., Utica, N. Y.:

Dear Sirs—I have now used my Robinson Iron Grinder about two months, and can say that I would not give it for any mill on earth. I have used a Munson Under Runner, a Stevens & Sons Buhr Mill. also a Bowsher Steel Grinder, but would not give the Robinson for three new ones. I use twelve horse-power steam, and have ground 2160 pounds of corn meal per hour. It will grind oats so you cannot tell what they are. I use it for grinding custom work and making meal for my trade. You can grind any kind of grain to flour with it. I can grind from 1700 pounds to 1900 pounds of Western Corn per hour all day and make fine meal. I have never ground Rye on my mill but once; it will grind it all right. I have ground a good deal of new Barley, and it does a good job, and you know this is mean stuff to grind. The Robinson Mill has a very fine feeding arrangement, and the mill is very easily controlled, and after starting it requires no attention, only to keep it well olled.

Yours truly.

E. C. MAXON.





ROLLER MILLS, SMUT MACHINES and GENERAL MILL MACHINERY.

B. F. STARR & CO., Baltimora, Md.



Our French Burr Mills

Are used by the leading mills because they are the Best. Investigation will convince you of their superiority. Catalog and Discounts on application.

SPROUT, WALDRON & CO., MUNCY, PA. Flour Mill Builders & Contractors

WE HAVE SOLD WITHIN 90 DAYS

to the largest Cement Manufacturers among them being the

American Cement Co. Alpha Portland Cement Co. Lehigh Portland Cement Co. Bonneville Cement Co.

Vulcanite Portland Cement Co. Peerless Portland Cement Co. Glens Falls Portland Cement Co. Castalia Portland Cement Co.

because they believed that The Griffin Mill beyond doubt does the best possible work at the smallest possible expense.

> We will gladly send you full information, and very many American and Foreign references regarding it if you desire them

BRADLEY PULVERIZER CO.,

92 STATE STREET, BOSTON, MASS., U. S. A.

Prospecting - -

for Coal and other minerals with DIAMOND DRILLS removing a complete core.

Bore Holes - -

for Steam, Pipe, Artesian Wells and Water Ways up to 24 inches in diameter, bored Round, Smooth and Straight.

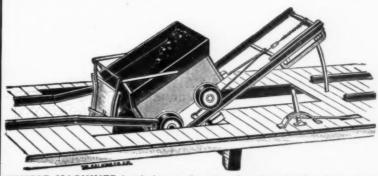
ALL WORK GUARANTEED.

SULLIVAN DIAMOND CORE DRILLS FOR SALE.

JOHN MUIRHEAD & SONS, Pittston, Pa.

THE WILSON AND MITCHELL

Automatic Coal and Ore Dumps.



*HESE MACHINES largely increase the output of a mine and reduce the operating expenses. After the coal has been dumped the empty car passes automatically through the dump, allowing the loaded car to follow it without the delay occasioned when the empty has be switched back before the load can come forward. Both loaded and empty cars are handled gravity, causing a great reduction in labor over the ordinary method.

The Dumper has complete control of the car when dumping, which secures the minimum akage with the most perfect screening, as the coal goes over the screens evenly and smoothly

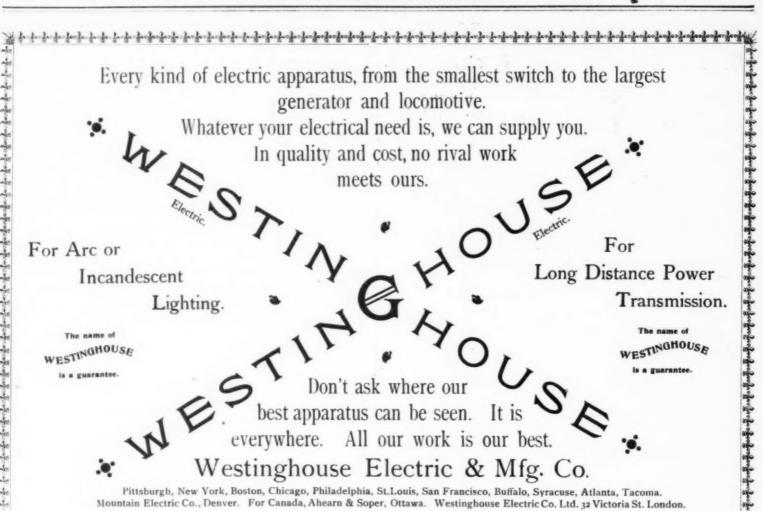
4488 tons of LUMP COAL have been loaded over one of these dumps a day of ten hours.

DUMPS FOR SPECIAL PURPOSES BUILT TO ORDER. Diamond Core Drills. Coal Mining Machinery. Coal Mine Supplies.

SULLIVAN MACHINERY CO.

Eastern Office and Works, CLAREMONT, N. H. Pittsburg Office, Schmidt Bldg., 230 Fifth Ave.

54 to 60 N. Clinton St., CHICAGO, ILL.



WESTERN ELECTRICAL SUPPLY CO.

10 & 12 N. Ninth Street, ST. LOUIS, MO.

ELECTRICAL MACHINERY AND SUPPLIES.

Complete Electric Light and Power Installation.

Canning House

BOILERS, ENGINES, DYNAMOS and MOTORS

Complete Electric and Steam Plants.

Manufacturers HIGH-GRADE BICYCLES.

MARYLAND MFG. & CONSTRUCTION CO.

336-342 North Street,

BALTIMORE, MD.

CASTNER, CURRAN & BULLITT,

Celebrated POCAHONTAS Smokeless Semi-Bituminous - COAL

326 Chestnut St.,

PHILADELPHIA, PA.

BRANCH OFFICES:

1 Broadway, New York. 70 Kilby Street, Boston, Mass. 36 Main Street, Norfolk, Va.
Neave Building, Cincinnati, O. Terry Building, Roanoke, Va. Old Colony Building, Chicago, Ills.
Board of Trade Building, Columbus, O. 4 Fenchurch Avenue, London, England.

NEWPORT NEWS Dry Dock Co. Shipbuilding and

WORKS AT NEWPORT NEWS, VA.

apson Basin Dry Dock, capable of docking a vessel 600 feet long, drawing twenty-five feet of water, at any stage of the tide. Repairs made promptly and at reasonable rates.

SHIP AND ENGINE BUILDERS

C. B. ORCUTT, President,

No. 1 BROADWAY,

SHIRK Bicycles.



The "Top Grade," pre-eminently High Class. More New Features and Points that TALK than on any wheel made. GET OUR DISCOUNTS.

THE SHIRK CO., Makers,

14 Custom House Court,

CHICAGO.

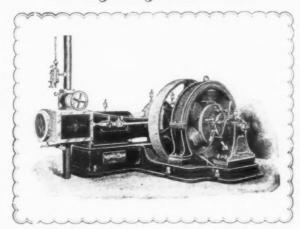






DIRECT -- CONNECTED DYNAM

For Lighting and Power.



The "WOOD" Dynamo embodies all the latest improvements in electrical machinery, among the most important being quick response to varying conditions of load, with sparkless commutation voltage remaining constant, at the same time having highest attainable efficiency, generous commutator and brush surface permitting the use of carbon brushes, insuring long life.

FORT WAYNE ELECTRIC CORPORATION

FORT WAYNE, INDIANA.

BRANCH OFFICES:

w York City, 115 Broadway.
leago, III., 621 625 Marquette Bldg,
liadelphia, Pa., 104 The Bourse,
ston, Mass., 17 Federal St.
chester, N. Y., Fowers Bldg.
Francisco, Cal., 18 Second St.
tshurgh, Pa., 918 Park Bldg.
Export Department, 115 Broadway, New York City.

New Orleans, La., 715 Perdido St., Omaha, Neb., 1463 Farnam St. St. Paul, Minn., 207 Newspaper Row, Cincinnati, O., 402 Neave Bidg. St. Louis, Mo., 321 Security Bidg. Atlanta, Ga., 25 Marietta St.

CMETHURST & ALLEN,

W. A. SMETHURST. RODNEY D. ALLEN

PHILA, PA.
Distance Telephone 4839. Electric Railway Contractors

Complete Electric Light and Power Installations. Electric Railway Work a Specialty.

SHAWHAN-THRESHER ELECTRIC CO. Electrical Engineers and Builders of Electrical Machinery, DAYTON, OHIO, U. S. A.

The Electrical Engineering & Supply Co Hunt Building CHARLOTTE, N. C. SOUTHERN ELECTRICAL ENGINEERS.

"PURITY-SOLIDITY-DURABILITY

MITCHELL TEMPERED COPPER CO. CORRY PA.

COMMUTATOR BARS AND SEGMENTS. Heavy or Light Pure Copper Castings

The United Electric Improvement Co. 19th Street and Alleghany Avenue, PHILADELPHIA.

ELECTRICAL EQUIPMENT OF ALL KIND.

*See large advt. in first issue of month.



THE BURR PATENT STEEL SAFETY LIFT BLOCK

APerfect Self-Locking Rope
Tackie Block.

Runs as freely as an ordinary
rope tackle block.

Holds more securely than a
chain block.
Locks instantly and does not
cut the rope.
Allows the load to be lowered
safely and slowly, the operator
using only one hand.
Cannot stick nor jam when
the load is to be lowered.

"I have tested the Burr Self-

Adopted by the Penna. R. R. Co.

The BURR MANUFACTURING CO. 823 Society for Savings Bldg., Cleveland, Ohio, U.S A

SETAND CAP SCREWS CINCINNATI SCREW &TAP & STANDARD AND SPECIALS CINCINNATI, O., U.S.A.



The ORATOR

Improved Hunnings

the ORATOR will-

The RAWSON ELECTRIC CO. ELVRIA. O., U. S. A. O





Stanley Electric Manufacturing Co.

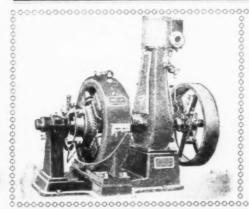
PITTSFIELD, MASS.

HIGH-GRADE ELECTRICAL APPARATUS

Long Distance Transmission and Central Station Distribution.

GENERATORS, MOTORS, TRANSFORMERS and SWITCHBOARDS.

ANDERSON, S. C. NEW YORK, 39 Cortland St. BOSTON, Equita CHICAGO, Marquette Building. SAN FRANCISCO, 106 Market St. ST. LOUIS, Western Electrical Supply Co.



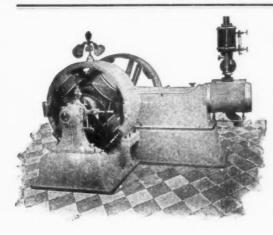
DIRECT CONNECTED and BELTED **GENERATORS** AND

HIGHEST GRADE.

HIGHEST EFFICIENCY. LATEST DESIGNS.

Complete Lighting Power and Railway Plants. FACTORIES, MILLS AND MINES EQUIPPED.

TRIUMPH ELECTRIC COMPANY, Cincinnati, Ohio.



COMMERCIAL ELECTRIC CO.

INDIANAPOLIS, IND.

STANDARD LIGHTING & POWER PLANTS

AN ECONOMICAL SYSTEM OF

Incandescent Lighting, Arc Lighting and Power

On the TWO-WIRE System with ONE MACHINE.

No Transformers or Exciters, and a PERFECTLY HARMLESS VOLTAGE.

Principal Office: 111 Capitol Avenue, INDIANAPOLIS, IND.





'96 JENKINS' 96



OMPRISE EVERYTHING in superior engineering specialties for steam, water, as, oil, etc. None as good as Lunenheimer's, if you want the best, in stock by dealers everywhere, it is only necessary to specify unkenheimer's make.

THE LUNKENHEIMER CO.

General Offices and Factories. CINCINNATI, OHIO, U. S. A.

dt Street, NEW YORK



40 SIZES

PORTABLE and STATIONARY.

Lowest in Price and the Best Forge Built.

B. F. STURTEVANT CO

Twelve Medals Awarded at 4 International



Special Prize Gold Medal Atlanta 1895

Expositions. Our goods are on sale in every leading Hardware Store in the United States and Canada.

CO., Philadelphia, Pa.

SLATINGTON-BANGOR SLATE SYNDICATE, MISSES, WHOLESALE DEALERS OF SLATINGTON, PA.

If you want Slate, much or little, send your plans and we will return them with bid, promptly.

THREE GROOVE CHUCKING REAMER



Canufactured by THE STANDARD TOOL CO , Cleveland, Ohio.



SELF-DUMPING COAL and ORE TUBS,

> Contractors and Stevedores. R. D. SEIDEL, Mfr. cessor to Thos. L. Addis

READING, PA.



TON PHILA, CHICAGO.



LOOK FOR THE TRADE-MARK



None other is genuine. Beware of Imitation

PENBERTHY INJECTOR CO. 125 Seventh St., DETROIT, NICH.



Morse Elevator Works. 📡

MORSE, WILLIAMS & CO.



WORKS-Frankford Avenue, Wildey and Shackamaxon Streets.

PHILADELPHIA.

OFFICES-

(1105 Frankford Avenue, Philade) 108 Liberty Street, New York, 19 Pearl Street, Boston, Builders' Exchange, Baltimore,

Contractor for Prospecting

DIAMOND DRILLS.

HOLES BORED ANY SIZE AT ANY ANGLE

P. SIMPSON.

Scranton, Pa.

CHATTANOOGA FOUNDRY & PIPE WORKS,

CAST IRON CASE WATERPIRE

Castings and Patterns

Of every description made to order.

H. STEVENS' SONS CO., Macon, Ga.



Dixon's Pure Flake Graphite

Is a Blessing to Every Engine Room and Machine Shop.

JOS. DIXON CRUCIBLE CO., Jersey City, N. J.



